

# Mobil

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RESEARCH, ENGINEERING &  
ENVIRONMENTAL AFFAIRS  
JULY 1993

1994 BUDGET RECOMMENDATIONS  
MOBIL FOUNDATION, INC.

**RESEARCH, ENGINEERING AND ENVIRONMENTAL AFFAIRS  
1994 MOBIL FOUNDATION GRANT RECOMMENDATIONS**

1994  
Proposed

**EHS** (Codes 31402 and 31406)

Civic	65,000
Education/Research	<u>248,000</u>
Subtotal	313,000

**Engineering** (Code 31500)

Education/Research	98,700
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**OPC** (Code 31200)

Education	1,000
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**Planning** (Code 31600)

Education	-0-
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**Research** (Codes 31701 through 31705 and 31707)

Education/Research	654,000
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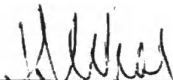
**Technical Center** (Code 34000)

Art/Culture	15,000
Civic	1,000
Community Funds	60,000
Education/Research	24,500
Hospital	<u>50,000</u>
Subtotal	150,500

**GRAND TOTAL**

**1,217,200**

Approved by:

  
\_\_\_\_\_  
J. J. Wise

7/26/93  
\_\_\_\_\_  
Date



**1994 PROPOSED  
REEA MOBIL FOUNDATION GRANTS  
ASSUMED BY CORPORATE AND COMMUNITY AFFAIRS**

**EHS**

Inst./ Prop.	<u>Institution/Proposal</u>	1994 <u>Proposed</u>
00122	American Council on Science and Health	
3055	General Support	15,000
11323	Environmental Law Institute	
8646	General Support	7,500
13894	Institute for Evaluating Health Risks	
12934	Program Support	15,000
03102	National Academy of Sciences	
15452	National Research Council-In-Situ Bioremediation	15,000
14873	National Cancer Institute	
15688	Laboratory of Comparative Carcinogenesis	20,000
00456	Virginia Tech Foundation, Inc.	
00553	Center for Environmental Studies-General Support	<u>10,000</u>
	Total	<u>82,500</u>

**ENG**

08420	Maryland Foundation, Inc., University of	
00755	Fire Protection Engineering Dept.-General Support	7,500
01569	Center for Minorities in Sci & Eng.-Mobil Minority	-0-
NEW	Chemical Process Systems Lab.	<u>5,000</u>
	Total	<u>12,500</u>

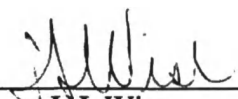
**RES**

09454	Carnegie Institution of Washington	
11748	Isotope Geochemistry Program of Dr. T.C. Hoering	10,000
01990	National Academy of Engineering Fund	
10819	General Support	15,000
00316	Old Dominion University	
12901	Oceanography Dept. - Dr. Swift Research	15,000
00456	Virginia Tech Foundation, Inc.	
01685	Mechanical Engineering Dept.-Tribology Programs	<u>10,000</u>
	Total	<u>50,000</u>

**GRAND TOTAL**

**\$145,000**

Approved by:

  
J. J. Wise

7/26/93  
Date

**MOBIL FOUNDATION GRANTS**  
**ENVIRONMENTAL HEALTH AND SAFETY**

	1992 <u>Actual</u>	1993 <u>Projected</u>	1994 <u>Proposed</u>
<b><u>CIVIC</u></b>			
Academy of Natural Sciences (CJD/JPM)	10,000	10,000	10,000
Int'l Bird Rescue Res. Center (CJD/SAH)	10,000	10,000	10,000
National Safety Council (CJD/DEM)	35,000	35,000	35,000
Wildlife Rehabilitation Center (CJD/DEM)	<u>10,000</u>	<u>10,000</u>	<u>10,000</u>
<b>Civic Total</b>	65,000	65,000	65,000
<b><u>EDUCATION</u></b>			
Bermuda Biological SR (CJD/SAH)	10,000	10,000	15,000
Bowdoin College	10,000	10,000	10,000
Cincinnati, Univ of (Ind Hyg Studies) (CJD/DEM)	0	10,000	0
Columbia U. (Lamont-Doherty) (JCH)	25,000	25,000	25,000
Columbia U. (Div of Env. Sci) (CRM)		9,000	9,000
Columbia U. (Health-Risk Comm) (CRM)	10,000	0	0
Delaware U. (Marine Sci-Dock Facility)	0	0	0
Friends of New Jersey Network (JCH)	5,000	5,000	0
Greater Caribbean En. & Env. (CJD/SAH)	10,000	10,000	10,000
M.I.T. (Ctr for Tech, Pol. & Ind. Dev) (JCH)	15,000	0	0
Mass. U. (Environ. Sci) (JCH)	10,000	10,000	0
Miami, U. (CJD/SAH)	10,000	10,000	10,000
Michigan U. (Neurotox) (CRM)	15,000	9,000	0
NJIT (Indus/Univ Coop Ctr) (JCH)	30,000	0	0
North Carolina U. (Air, Rad & IH) (CJD/DEM)	10,000		10,000
North Carolina State U. (JCH)	15,000	15,000	15,000
Princeton U. (Groundwater Res) (CJD/JPM)	15,000	15,000	10,000
Princeton U. (Energy & Envir Std) (JCH/LSB)	20,000	20,000	0
Rutgers U. (Grad.Prog-Tox) (CRM)	20,000	20,000	20,000
Rutgers U. (Dep of Chem. Bio & Phar) (CRM)	10,000	10,000	10,000
Rutgers U. (Res. Prog.-Pharm) (CRM)	16,000	20,000	20,000
SRI International (Methods Devel) (CRM)	20,000	20,000	20,000
Woods Hole Ocean. (Coastal Res) (JCH)	20,000	20,000	20,000
<b><u>ADDITIONS FOR 1994:</u></b>			
Drexel University			10,000
Harvard School of Public Health (JCH)			12,500
Virginia Polytechnical Institute & State Univ (CDP/JPM)			6,500
The Academy of Natural Sciences (JCH)			<u>15,000</u>
<b>EDUCATION TOTAL</b>	<u>296,000</u>	<u>248,000</u>	<u>248,000</u>
<b>EHSD TOTAL</b>	361,000	313,000	313,000

MOBIL FOUNDATION GRANTS  
ENVIRONMENTAL HEALTH AND SAFETY

	<u>1992</u> <u>Actual</u>	<u>1993</u> <u>Projected</u>	<u>1994</u> <u>Proposed</u>
<u>C&amp;CA</u>			
American Council on Science and Health (General Support) (AJS)	15,000	15,000	15,000
Environmental Law Institute	7,500	7,500	7,500
Institute for Evaluating Health Risks (General Support) (CJD)	10,000	15,000	15,000
National Academy of Sciences (Nat. Res. Council-In-Situ Biorem)	0	15,000	15,000
National Cancer Institute (CRM) (Lab. of Comparative Carcinogenesis)	16,000	20,000	20,000
Virginia Polytechnic Inst. (CRM)	<u>10,000</u>	<u>10,000</u>	<u>10,000</u>
 C&CA TOTAL	 <u>58,500</u>	 <u>82,500</u>	 <u>82,500</u>
 GRAND TOTAL	 <u>419,500</u>	 <u>395,500</u>	 <u>395,500</u>

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
 \*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
 PRE-BUDGET UNIT REPORT AS OF 04/28/93

EHS UNIT CODE-31402  
 CIVIC

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00015 P08647	Academy of Natural Sciences of Philadelphia Corporate connection		10,000	10,000	10,000 ✓
I10851 P12666	Appalachian Trail Conference Inventory & Management Program for endangered	**			
I00716 P00071	International Bird Rescue Research Center Rehabilitation of aquatic wildfowl-general support		10,000	10,000	10,000 ✓
I01412 P01662	Resources for the Future Federal Bureau of Environmental Statistics	**			
I00878 P00163 P10180	Wildlife Rehabilitation Center Recolonization of wildfowl research Equipment purchase	**	10,000	10,000	10,000 ✓
TOTAL CIVIC			30,000	30,000	30,000

ENTER BELOW ANY NEW PROPOSALS YOU WOULD LIKE TO SPONSOR:

UNIT NAME	UNIT CODE	INSTITUTION NAME	PROPOSAL NAME	AMOUNT

APPROVED

*C. J. Sweeney*

DATE

*6/25/94*

NOTE: \*\* THIS PROPOSAL WAS RECOMMENDED IN A YEAR PRIOR TO 1992

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
 \*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
 PRE-BUDGET UNIT REPORT AS OF 04/28/93

EHS UNIT CODE-31402  
 EDUCATION

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00157	Bermuda Biological Station for Research, Inc.				
P00195	General support		10,000	10,000	15,000 ✓
P10179	Equipment purchase	**			
I00159	Bowdoin College				
P00197	Marine Research Lab-general support		10,000	10,000	10,000 ✓
P10178	Marine research laboratory-equipment purchase	**			
I00010	Cincinnati Foundation, University of				
P01454	Environmental Health Dept-Dr. Albert research	**			
I00397	Columbia University in the City of New York,				9,000 ✓
P01054	Environmental Sciences-support a teaching research			9,000	
P05429	School of Public Health-Risk communication		10,000		25,000 ✓
P09055	Lamont-Doherty Geological Observatory-earth &		25,000	25,000	
I00006	Cornell University				
P00789	Comparative and Environmental Toxicology Program-	**			
I00190	Delaware, University of				
P13707	College of Marine Studies	**			
I00194	Drexel University				
P01521	Environmental Studies Institute-general support	**			
I04145	Friends of New Jersey Network, Inc.				
P08693	Environmental awareness promotion		5,000	5,000	- ✓
I00213	Georgetown University				
P01185	Institute of Health Policy Analysis-general	**			
I01565	Greater Caribbean Energy & Environment Fndn, Inc				
P00820	Research on effects of oil & chemically dispersed		10,000	10,000	10,000 ✓
P08648	Addition to p820-research on effects of oil &	**			
P09333	Addition to p8648-research on effects of oil &	**			
I08851	International Council of Scientific Unions				
P05393	SCOPE-Biogeochemical chemical cycles and	**			
I00245	Keystone Center for Continuing Education				
P06655	General support	**			
I00004	Massachusetts Institute of Technology				
P08689	Center for Technology, Policy & Industrial		15,000		
I00265	Massachusetts, University of				
P08690	Environmental sciences program		10,000	10,000	- ✓

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
 \*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
 PRE-BUDGET UNIT REPORT AS OF 04/28/93

EHS UNIT CODE-31402  
 EDUCATION

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00268 P01304 P09334	Miami, University of (Coral Gables, FL) Biology Dept-Research in mangrove ecology Addition to p1304-Biology Dept-research in	**	10,000	10,000	10,000 ✓
I00271 P08692	Michigan, University of Protection & potentiation of delayed neurotoxicity		15,000	9,000	- ✓
I01023 P01793	New Jersey Institute of Technology, Foundation a Industry/University Cooperative Centr for Research		30,000		
I00300 P00957	New York University SGOMSEC project	**			
I01562 P12746	North Carolina State University Chemical Engineering Dept-Prof. Kilpatrick		15,000	15,000	15,000 ✓
I00323 P03210	Pennsylvania State University Center for Air Environment Studies-general support	**			
I00002 P00916 P12745	Princeton University Civil Engineering Dept-Industrial support group Center for Energy & Environmental Studies-Spiro		15,000 20,000	15,000 20,000	10,000 ✓ - ✓
I00407 P00453 P01189	Rockefeller University Life Sciences & Public Policy Program-general Investigative Dermatology Lab-general support	** **			
I00413 P00457 P01657 P12658	Rutgers University Foundation Graduate program in toxicology-general support Chemical Biology & Pharmacognosy Dept-Dr. Conney Pharmaceutical Chemistry Dept-Alkyl carbozales		20,000 10,000 16,000	20,000 10,000 20,000	20,000 ✓ 10,000 ✓ 20,000 ✓
I02888 P09056	Sri International Methods development study		20,000	20,000	20,000 ✓
I00447 P01659	Tufts College, Trustees of Civil Engineering Dept-research programs	**			
I00462 P01658	Washington University Center for the Study of American Business-	**			
I00468 P01622	Wisconsin Foundation, University of McArdle Laboratory for Cancer Research-graduate	**			

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
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 PRE-BUDGET UNIT REPORT AS OF 04/28/93

EHS UNIT CODE-31402  
 EDUCATION

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00473 P00821	Woods Hole Oceanographic Institution Coastal Research Center-general support		20,000	20,000	20,000 ✓
TOTAL EDUCATION			286,000	238,000	238,000

ENTER BELOW ANY NEW PROPOSALS YOU WOULD LIKE TO SPONSOR:

UNIT NAME	UNIT CODE	INSTITUTION NAME	PROPOSAL NAME	AMOUNT
EHS	31402	Drexel University	Civil & Architectural Eng. Dept.	10,000 ✓
EHS	31402	Harvard School of Pub. Health	Harvard Cntr for Risk Analysis	12,500 ✓
EHS	31402	Virginia Poly Inst. & Stat Univ.	Cntr for Env. & Hazardous Mat Stud	6,500 ✓
EHS	31402	The Academy of Natural Sci.	Environmental Associates Program	15,000 ✓

APPROVED

*C. J. Silvestri*

DATE

*6/25/94*

NOTE: \*\* THIS PROPOSAL WAS RECOMMENDED IN A YEAR PRIOR TO 1992

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
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PRE-BUDGET UNIT REPORT AS OF 04/28/93EHS UNIT CODE-31402  
HEALTH AGENCY

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00379	Salk Institute				
P02717	General support				

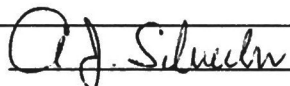
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TOTAL HEALTH AGENCY

ENTER BELOW ANY NEW PROPOSALS YOU WOULD LIKE TO SPONSOR:

UNIT NAME	UNIT CODE	INSTITUTION NAME	PROPOSAL NAME	AMOUNT
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
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_____	_____	_____	_____	_____
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APPROVED



DATE

6/25/94

NOTE: \*\* THIS PROPOSAL WAS RECOMMENDED IN A YEAR PRIOR TO 1992



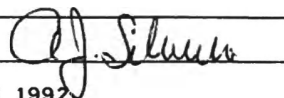
MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
\*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
PRE-BUDGET UNIT REPORT AS OF 04/28/93EHS UNIT CODE-31402  
HOSPITAL

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00282	Mount Sinai Medical Center				
P01055	Environmental Sciences Laboratory-general support **				
TOTAL HOSPITAL					
TOTAL 31402			316,000	268,000	268,000

ENTER BELOW ANY NEW PROPOSALS YOU WOULD LIKE TO SPONSOR:

UNIT NAME	UNIT CODE	INSTITUTION NAME	PROPOSAL NAME	AMOUNT
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
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_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

APPROVED



DATE

6/25/94

NOTE: \*\* THIS PROPOSAL WAS RECOMMENDED IN A YEAR PRIOR TO 1992

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
\*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
PRE-BUDGET UNIT REPORT AS OF 04/28/93EHS UNIT CODE-31406  
CIVIC

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I02010 P00768	Foundation for Safety & Health General support		35,000	35,000	35,000 ✓
TOTAL CIVIC			35,000	35,000	35,000

ENTER BELOW ANY NEW PROPOSALS YOU WOULD LIKE TO SPONSOR:

UNIT NAME	UNIT CODE	INSTITUTION NAME	PROPOSAL NAME	AMOUNT
_____	_____	_____	_____	_____
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APPROVED

*C. J. Silveira*

DATE

*6/25/94*

NOTE: \*\* THIS PROPOSAL WAS RECOMMENDED IN A YEAR PRIOR TO 1992

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
 \*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
 PRE-BUDGET UNIT REPORT AS OF 04/28/93

EHS UNIT CODE-31406  
 EDUCATION

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00010 P15453	Cincinnati Foundation, University of Environmental Health Dept-Environmental Hygiene			10,000	
I00303 P00401	North Carolina, University of Environmental Sciences & Engineering Dept-Air,		10,000		10,000 ✓
I00434 P06271	Temple University Industrial Hygiene Program	**			
TOTAL EDUCATION			10,000	10,000	10,000
TOTAL 31406			45,000	45,000	45,000

ENTER BELOW ANY NEW PROPOSALS YOU WOULD LIKE TO SPONSOR:

UNIT NAME	UNIT CODE	INSTITUTION NAME	PROPOSAL NAME	AMOUNT

APPROVED

*AJ. Schuch*

DATE

*6/25/94*

NOTE: \*\* THIS PROPOSAL WAS RECOMMENDED IN A YEAR PRIOR TO 1992

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MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
PROPOSALS ASSUMED BY CCA (30101)  
FOR UNIT 31402

INST/PROP NUMBER	ORGANIZATION/PROPOSAL NAME	BUD CAT	1992 AMOUNT	1993 AMOUNT	1994 AMOUNT
I00122 P03055	American Council on Science and Health General support	H AGENCY	15,000	15,000	15,000 ✓

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REPORT JAL1MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
PROPOSALS ASSUMED BY CCA (30102)  
FOR UNIT 31402

INST/PROP NUMBER	ORGANIZATION/PROPOSAL NAME	BUD CAT	1992 AMOUNT	1993 AMOUNT	1994 AMOUNT
I11323 P08646	Environmental Law Institute General support	EDUC	7,500	7,500	7,500 ✓
I13894 P12934	Institute for Evaluating Health Risks Program support	EDUC	10,000	15,000	15,000 ✓
I03102 P15452	National Academy of Sciences National Research Council-In-situ Bioremediation	EDUC		15,000	15,000 ✓
I14873 P15688	National Cancer Institute Laboratory of Comparative Carcinogenesis	EDUC	16,000	20,000	20,000 ✓
I00456 P00553	Virginia Tech Foundation, Inc. Center for Environmental Studies-general support	EDUC	10,000	10,000	10,000 ✓
TOTAL UNIT 31402			43,500	67,500	67,500

## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

**Organization:** American Council on Science and Health  
**Address:** 1995 Broadway  
**Zip Code:** New York, New York 10023  
**Organizational Contact:** Dr. Elizabeth M. Whelan, Exec. Director  
**Program/Department:** Effects of Food, Chemicals & the Environment  
on Human Health

**Date:** 6/93  
**Budget Year:** 1994  
**Amount:** \$15,000

**Recommending Mobil Unit (Co., Div. & Dept.):** MOCORP, EHS  
**Mobil Employee Coordinating Grant:** A. J. Silvestri

501(c)(3) attached ☐  
(If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1981-86 - \$10,000/yr	Stauffer \$10,000	
1987-90 - \$ 5,000/yr	Chevron 10,000	
1991 - \$15,000/yr	Ashland 25,000	
1992 - \$15,000/yr	Union Carbide 10,000	
1993 - \$15,000/yr	ARCO 10,000	
	Shell 15,000	Unit Code: _____
	Exxon 10,000	Cat. Code: _____

**JUSTIFICATION:**Purpose of Grant

The American Council on Science and Health (ACSH) promotes accurate, scientifically-based evaluations of food, chemicals and the environment on human health and has an effective public outreach program in understandable lay terms.

Effectiveness of Program/Organization

As part of its public outreach, ACSH investigates health-related subjects and reports the findings to technical and general audiences. The Council has achieved high credibility and recognition in the media and scientific community, as evidenced by wide publication of their positions in the press and in scientific journals. ACSH outreach effort involves use of this material by many local radio and television stations. This grass roots approach is needed to help educate the public and reduce fear of industrial chemicals. ACSH promotes rational understanding of the relative minor risks from most industrial chemicals compared with those accepted as normal from natural causes.

Benefits to Mobil

One of the major benefits is due to the Executive Director, Dr. Elizabeth Whelan, an articulate spokesperson who often appears as a counterpoint to so-called "public interest" groups.

We continue to be impressed with the accomplishments of ACSH, and recommend continued funding.

This recommendation has the concurrence of the Medical and Public Relations Departments.

## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: Environmental Law Institute  
Address: 1616 P Street NW, Suite 200, Washington, DC  
Zip Code: 20036  
Organizational Contact: Mr. W. Futrell  
Program/Department:

Date: 6/93  
Budget Year: 1994  
Amount: \$7,500

Recommending Mobil Unit (Co., Div. & Dept.): MOCORP, EHS  
Mobil Employee Coordinating Grant: J. C. Hildrew

501(c)(3) attached ☐  
(If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1991 - \$5,000 1992 - \$7,500 1993 - \$7,500	Companies contributing at least \$5,000  Ford GE Occidental Sun Oil DuPont Shell Monsanto	    Unit Code: Cat. Code:

**JUSTIFICATION:**Description of Activities and Programs

The Environmental Law Institute (ELI) is a non-profit organization which promotes better understanding of environmental issues through its publications and through seminars. Although an environmental group, it promotes reasonable approaches and solutions to problems. Two of its leading publications are the Environmental Law Reporter and The Environmental Forum.

Purpose of Grant

This unrestricted grant would assist ELI in its publications and programs to identify the major issues confronting the country in order to better educate thought leaders on the choices and their implications. Institute publications are widely read in the environmental community and are helpful in communicating industry's concerns to such organizations.

Effectiveness of Program/Organization

ELI has been an important group in identifying the effects of new environmental requirements on the public's lifestyle. Programs such as recycling and transportation control plans under the Clean Air Act can have significant affects on disposal of waste and suburban development programs. ELI has the ability to keep issues before the government and the public through their symposiums and reports.

Benefits to Mobil

Mobil Foundation grants will enhance environmental organizations' views of Mobil, enable us to reach through ELI activities many groups that we do not communicate with, and enable Mobil to participate in their dialogue groups.

## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: Institute for Evaluating Health Risks  
Address: Suite 608, 1101 Vermont Ave., N.W.  
Zip Code: Washington, D.C. 20005  
Organizational Contact: John A. Moore, President  
Program/Department: Unrestricted Contribution

Date: 6/93  
Budget Year: 1994  
Amount: \$15,000

Recommending Mobil Unit (Co., Div. & Dept.): MOCORP, EHS  
Mobil Employee Coordinating Grant: C. J. DiPerna

501(c)(3) attached ☐  
(If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1990 - \$15,000 (Contribution)	IEHR sought three year commitments from various companies in 1991. Supporters include Chevron, Dow, GE, Merck, Monsanto, SC Johnson Wax and Texaco.	
1992 - \$10,000		
1993 - \$15,000		
		Unit Code: _____
		Cat. Code: _____

**JUSTIFICATION:**Purpose of Grant

The fundamental mission of the IEHR is, in the words of its president, "... to open up risk assessment both to better science and to a broader range of scientific input." Their strategy seeks to bring government, industry and academia together in a setting where policy and major areas of controversy can be shaped and moved forward. Mobil was asked to provide funding for three years to assist the new organization staff up and demonstrate its effectiveness. The recommended grant of \$15,000 would represent the third year of support for IEHR.

Effectiveness of Program/Organization

The IEHR president is John Moore, previously an assistant EPA administrator, who possesses high credibility with industry health risk assessment groups. Two major activities, the Developmental and Reproductive Toxicants (DART) project and the Bioaccumulation project, resulted in well crafted documents that reflected scientific consensus and could serve as realistic models for regulation development. These examples demonstrate that the organization is providing a mechanism by which the use of science and technology can be advanced effectively, ultimately to influence the development of more cost-effective EHS regulations.

Benefits to Mobil

Almost all federal and state regulatory agencies conduct, or aspire to conduct, their business according to risk-based management systems. The pervasiveness of the concept and the importance of regulatory systems makes it essential for industry to actively support the rational use of scientific information in risk-based determinations.



## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: National Research Council  
Address: 2101 Constitution Avenue, Washington, DC  
Zip Code: 20418  
Organizational Contact: Ms. Jacqueline McDonald  
Program/Department: In-situ Bioremediation Guidelines Study/Water Science  
and Technology Board

Date: 6/93  
Budget Year: 1994  
Amount: \$15,000

Recommending Mobil Unit (Co., Div. & Dept.): MOCORP, EHS 501(c)(3) attached |  
Mobil Employee Coordinating Grant: C. J. DiPerna/J. P. Marum (If New Organization) |

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
Previous Mobil Foundation Funding for the 1985 "Oil in the Sea: Study.	API - \$15,000 Chevron - 10,000 EPRI - 20,000 NSF - 10,000 EPA - 25,000	
1993 - \$15,000		
		Unit Code:
		Cat. Code:

**JUSTIFICATION:**

Description of Activities and Programs - The National Research Council, the principal operating agency of the National Academies of Sciences and Engineering, serves as an independent advisor to the federal government on major scientific and technical questions. The NRC brings together the resources of the entire scientific and technical community on a subject through its volunteer advisory panels. Previous NRC studies on subjects of interest to Mobil and the petroleum industry include: a 1983 study on "Drilling Discharges in the Marine Environment"; a 1985 study on "Oil on the Sea; Inputs, Fates, and Effects;" and a 1989 study on "Using Oil Spill Dispersants on the Sea." Currently the NRC is completing a study on groundwater pump-and-treat technology.

Purpose of Grant - The purpose of the grant is to complete needed funding for a significant new study title: "In-situ Bioremediation: How do we know when it works?" The purpose of the study is to establish guidelines for evaluating whether a bioremediation project has been successful for cleaning up contaminated groundwater and soil.

Effectiveness of Program/Organization - As with most National Academy studies, we expect this program to be well researched, generally free of bias, and to represent the state of knowledge when published in early 1993. To-date, the Water Science and Technology Board has selected a panel of thirteen experts representing disciplines essential to In-situ Bioremediation, including microbiology, microbial ecology, environmental engineering, hydrogeology, and field bioremediation. Panelists will come from academia, industry, and government; they will be subject to all NRC bias procedures.

Benefits to Mobil - This National Research Council report will bring together the knowledge of the nation's best scientists to provide guidelines for evaluating effectiveness of bioremediation projects. Such a report should be valuable to Mobil and the petroleum industry. This report is especially timely as pressure for finding alternatives to conventional clean-up technology is mounting. By helping to fund the study, Mobil may be offered the opportunity to participate or to receive early access to the findings.

Organization: National Cancer Institute  
NIH/Laboratory of Comparative Carcinogenesis  
Address: Bldg. 538, Rm. 205E  
Zip Code: Frederick, MD 21702  
Organizational Contact: Dr. Larry K. Keefer  
Program/Department: Carinogenic Mechanisms of Middle Distillate in Tumor  
Model System

Date: 6/11/93  
Budget Year: 1994  
Amount: \$20,000

Recommending Mobil Unit (Co., Div. & Dept.): MOCORP, EHS 501(c)(3) attached ☐  
Mobil Employee Coordinating Grant: C. R. Mackerer (If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1992 - \$16,000 1993 - \$20,000	none	
		Unit Code:
		Cat. Code:

**JUSTIFICATION:**PURPOSE

The National Cancer Institute (NCI) is a U.S. Government agency whose duties include research on mechanisms of carcinogenesis and approaches to reduction of cancer risk to humans. The Laboratory of Comparative Carcinogenesis (LCC) is a major unit within the NCI's Division of Cancer Etiology whose focus is on the long-term effects of chemical exposures in animals.

The purpose of this grant is to support a research project directed toward gaining an understanding of the role that skin irritation plays in causing skin cancer. Specifically, there will be an evaluation of a hypothesis that irritation causes infiltration of white blood cells which, depending on the nature of the irritant, may produce nitric oxide which is genotoxic. This hypothesis, if correct, might explain the mechanism for cancer caused by middle distillates and other non-genotoxic skin carcinogens. During 1993 critical methods were developed and an improved synthesis of a nitric oxide synthase inhibitor (N-methylarginine) is being investigated.

EFFECTIVENESS

The NCI has established itself as one of the world's premier cancer research facilities. By employing thousands of scientists in various fields and supplying them with the most advanced resources, NCI offers the opportunity for research at the cutting edge of science. Of particular importance is the presence within the Laboratory of Comparative Carcinogenesis (LCC) of extensive expertise in both nitric oxide's biomedical significance and the mechanisms of skin carcinogenesis. With important contributions in both areas to their credit, LCC scientists are highly qualified to perform the proposed research.

BENEFITS TO MOBIL

1. The research is important to Mobil.
2. Fosters interaction with scientists conducting research in carcinogenesis.

Organization: Virginia Polytechnic Institute & State Univ. Date: 6/11/93  
Address: Blacksburg, VA Budget Year: 1994  
Zip Code: 24061 Amount: \$10,000  
Organizational Contact: John Cairns, Jr., Ph.D.  
Program/Department: Center for Environmental Studies

Recommending Mobil Unit (Co., Div. & Dept.): MOCORP, EHS 501(c)(3) attached ☐  
Mobil Employee Coordinating Grant: C. R. Mackerer (If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1976 - \$5,000	Proctor & Gamble - \$22,000	
1980 - \$6,000	DuPont - \$10,000	
1981 - \$8,000	Roanoke Regional	
1982-93 - \$10,000	Landfill Assoc. - \$10,000	
		Unit Code:
		Cat. Code:

**JUSTIFICATION:**PURPOSE

The purpose of this grant is to provide support for the work of the Center for Environmental Studies under the direction of Professor John Cairns, Jr. We continue to be interested in areas of research involving toxicology and environmental effect relationships, mechanism of toxicity, and basic research in the field of ecotoxicology.

EFFECTIVENESS

The Center for Environmental Studies is a well respected facility for the training of aquatic toxicologists. Dr. Cairns is an international expert with regard to the aquatic environment. His publications (1,145 including 51 books with two in press) consistently acknowledge Mobil supported research. He is a member of the National Academy of Sciences. This year Mobil funds supported the work of students studying, in particular, restored ecosystems and predictive models for toxicity testing.

BENEFITS TO MOBIL

1. The Center serves as an important resource for well-trained ecotoxicologists.
2. Outstanding research is conducted in areas of interest to EHSL.
3. His laboratory is a resource which provides the EHSL ecotoxicology laboratory expert advice and guidance.

## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: International Bird Rescue Research Center  
 Address: Aquatic Park, Berkeley, CA  
 Zip Code: 04710  
 Organizational Contact: Mr Jay Holcomb  
 Program/Department:

Date: 6/93  
 Budget Year: 1994  
 Amount: \$10,000

Recommending Mobil Unit (Co., Div. & Dept.): MOCORP, EHS  
 Mobil Employee Coordinating Grant: S. A. Horn

501(c)(3) attached ☐  
 (If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1986 - \$ 9,000	Alaska Clean Seas - \$55,000	
1987 - 9,000	Aleyeska - 55,000	
1988 - 9,000	Chevron - 15,000	
1989 - 10,000	Pacific Gas & Elec. - 12,500	
1990 - 10,000	ARCO - 15,000	
1991 - 10,000	Texaco - 10,000	
1992 - 10,000	Amoco - 5,000	Unit Code:
1993 - 10,000	Marathon - 5,000	Cat. Code:

**JUSTIFICATION:**Description of Activities and Programs

The Center treats birds from the West and Gulf Coast areas, answers formal and informal inquiries concerning oiled birds, and speaks before public and environmental groups. This continuing professional involvement helps ease the public concern over this visible issue. Oil companies, oil spill cooperatives, State and Federal agencies, and environmental groups refer injured water fowl problems to the Center. IBRRC also conducts workshops for Federal, State and environmental groups on proper techniques for treating oiled birds. IBRRC directed the bird-cleaning operations of the Exxon Valdez spill in a very successful manner and has assisted Mobil at several spills over the years.

Purpose of Grant

This grant would help maintain the viability of this unique and important organization for the rehabilitation of aquatic wildfowl injured by various environmental disturbances, including oil spills.

Effectiveness of Program/Organization

IBRRC has been a leader in the development of improved bird rehabilitation techniques. Using improved techniques, the group has been able to save as many as 85% of oiled birds brought for treatment. The group uses mild detergents to clean birds and emphasizes good animal husbandry. IBRRC, under contract to API, has published a state-of-the-art booklet on the treatment of oiled waterfowl.

Benefits to Mobil Foundation

Benefits to Mobil and the industry will accrue from the continued viability of this organization and the research work it conducts. In 1984, IBRRC performed all phases of oiled bird rehabilitation during the "MOBILOIL" spill. Over 500 birds were treated with all work being performed in an exemplary manner under difficult circumstances. A high survival rate of 65% was achieved. Environmental claims and unfavorable publicity to Mobil were thus minimized. In 1986, IBRRC participated in a very successful oil spill simulation exercise at Mobil's Southwest Terminal in Torrance, CA. In 1987, IBRRC's rapid response and assistance to Mobil's West Coast Pipeline at a spill in Lebec, CA, not only defused a potential public relations problem, but saved substantial costs by not requiring our department to fly cross country to respond. IBRRC continues to participate in Mobil Training Programs and is cited in Mobil's response plans.

Funding beyond a three year period continues to assure the viability of this important oil spill resource and assure rapid response to any possible Mobil spill events. This type expertise would be most helpful to Mobil not only during the cleanup portion of a spill, but to gather data and provide testimony during litigation concerning environmental damage. Awards from this type of litigation can exceed the total cost of clean-up and mitigation activities.

**MOBIL FOUNDATION, INC.**

**GRANT RECOMMENDATION**

**Organization:** Academy of Natural Sciences of Philadelphia  
**Address:** Nineteenth and the Parkway, Philadelphia, PA  
**Zip Code:** 19103  
**Organizational Contact:** Dr. Keith S. Thomson, President  
**Program/Department:** Corporate Connection

**Date:** 6/93  
**Budget Year:** 1994  
**Amount:** \$10,000

**Recommending Mobil Unit (Co., Div. & Dept.):** MOCORP, EHSD 501(c)(3) attached ☐  
**Mobil Employee Coordinating Grant:** C. J. DiPerna/J. P. Marum (If New Organization) ☐

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1972-83 - General support	Annual Support	
1984-86 - \$25,000/yr to EAL	Sun Company - \$ 10,000	
1990 - \$7,500 Corp. Connec.	Arco Chemical - \$ 15,000	
1991 - \$10,000 Corp Connec.	Elf Atochem - \$ 7,000	
1992 - \$10,000 + one-time \$25,000 grant for Chesapeake Bay lab	Chevron - \$ 1,000	
1993 - \$10,000		
		Unit Code: _____
		Cat. Code: _____

**JUSTIFICATION:**

Description of Activities and Programs:

The Academy of Natural Sciences of Philadelphia has strong environmental research and science education programs, and an excellent natural history museum. Their Chesapeake Bay laboratory, which received Mobil Foundation funding in 1992, is active in numerous studies addressing pollution of the Bay. The Academy's science education programs annually reach 100,000 students and teachers, including over 20,000 from New Jersey. Their well-respected scientists also have a number of ecological studies underway in various parts of the world.

Purpose of Grant:

This \$10,000 grant would be directed to the Corporate Connection of the Academy to continue its environmental research and science education programs.

Effectiveness of Program/Organization:

The Academy is a well respected research organization among scientists worldwide, and is particularly effective in the Philadelphia area through their museum and other science education programs. Their expertise in limnology and systematics/evolution enjoys a worldwide reputation. Currently, their scientists have programs in Indonesia, China, Venezuela, Ecuador, and several other countries.

Benefits to Mobil Foundation, Inc.:

Benefits include enhancement of Mobil's corporate and community affairs program through the 1992 Chesapeake Lab funding. Benefits also extend to Mobil employees in the Philadelphia area, where MRDC Paulsboro and the Paulsboro Refinery maintain an association with the Academy including special employee nights at the museum. Also, access to the Academy's scientific expertise (e.g. in limnology) could be helpful to Mobil in preparing environmental protection programs in support of new exploration ventures.

This recommendation has the support of MRDC-Paulsboro.



## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: National Safety Council  
 Address: 1121 Spring Lake Drive, Itasca, IL  
 Zip Code: 60143-3201  
 Organizational Contact: T. C. Gilchrest (708) 775-2232  
 Program/Department: Foundation for Safety and Health

Date: 6/93  
 Budget Year: 1994  
 Amount: \$35,000

Recommending Mobil Unit (Co., Div. & Dept.): MOCORP, EHS  
 Mobil Employee Coordinating Grant: D. E. Miller

501(c)(3) attached ☐  
 (If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WE IN THIS BLOCK For Foundation Use Only:
1986 - \$24,000	1993: DuPont - \$30,000	
1987 - 24,000	Chevron - 17,500	
1988 - 30,000	Shell - 10,000	
1989 - 30,000	Amoco - 10,000	
1990 - 30,000	Texaco - 7,500	
1991 - 35,000	Ford - 10,000	
1992 - 35,000	IBM - 20,000	Unit Code:
1993 - 35,000	AT&T - 12,500	Cat. Code:

**JUSTIFICATION:**Description of Activities and Programs

The National Safety Council (Foundation for Safety and Health) is the only organization of its kind in the USA that is dedicated to promoting voluntary methods and procedures related to increased safety, fire protection and health. Their programs are aimed at the leading causes of occupational and non-occupational accidental injury and illness. The organization is non-governmental and privately supported.

Purpose of Grant

Provide support for their on-going activities in safety/health awareness, education and research, as well as rehabilitation of accident victims. Also enables continuation of the Council's seat belt campaign and the on-going defensive driving program (DDC - Attitudinal Dynamics of Driving) aimed at drivers with chronic traffic citations; First Aid Institute - that trains instructors on first aid techniques; and the Environmental Health Center's activities on communicating and exploring new ways to respond to/manage global safety, health and environmental challenges with emphasis on Central Europe. Furthermore, support for new programs, such as a joint effort with CMA on process safety, and safety education for elementary schools.

Effectiveness of Programs/Organization

Their programs have been effective in training more than 31 million drivers in crash avoidance skills since 1960, promoting seat belt utilization, prevention of inner city lead poisoning and reduction of motor vehicle, worksite and home accidental death rates. Their total effort has successfully assisted in reducing the national accident death toll from 88,500 persons in 1991 to 84,000 in 1992, thereby controlling the total costs of accidents that now amounts to about \$172.4 billion.

Benefits to Mobil Foundation

Mobil is currently represented on the Board of Directors by David E. Miller and has representatives from the operating divisions on various working committees. By supporting this unique national life-saving organization, Mobil is identified as a co-leader in the Council's life-saving mission. Additionally, we were successful in 1989 in having the National Safety Council Board of Directors pass a resolution opposing the mandating of any alternative fuel, such as methanol, until studies demonstrated a reduced risk of death, illness or injury. The relationship with and financial support to the Council goes back to the 1960's and should be continued because of the worldwide premier status of this organization.

**MOBIL FOUNDATION, INC.**
**GRANT RECOMMENDATION**

**Organization:** . Wildlife Rehabilitation Center  
**Address:** . Grove Street, Upton, MA  
**Zip Code:** . 01568  
**Organizational Contact:** . Dr. Philip Stanton  
**Program/Department:** .

**Date:** . 6/93  
**Budget Year:** 1994  
**Amount:** \$10,000

**Recommending Mobil Unit (Co., Div. & Dept.):** MOCORP, EHS  
**Mobil Employee Coordinating Grant:** . S. A. Horn

501(c)(3) attached ☐  
 (If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
.1985 - \$10,000	Past Years:	
1986-88 - 9,000	American Petroleum Institute	
1990 - 15,000	New England Petroleum Council	
1991 - 10,000		
1992 - 10,000		
1993 - 10,000		
		Unit Code: _____
		Cat. Code: _____

**JUSTIFICATION:**
Description of Activities and Programs

WRC works to develop techniques for treating aquatic wildfowl damaged by spilled oil and other environmental disturbances. Its Director, Dr. Philip R. Stanton, pioneered rehabilitation techniques with the assistance of the American Petroleum Institute. They treat birds brought in from the Northeast and other areas, answer formal and informal inquiries concerning oiled birds, and speak before public and environmental groups concerning this issue. This continuing professional involvement helps ease the public concern.

Purpose of Grant

The purpose is to help ensure that continued availability of this important resource for our oil spill contingency planning.

Effectiveness of Program/Organization

Utilizing past years Mobil Foundation grants, Dr. Stanton has been conducting research on the "transplanting" of wildfowl. This published work shows how recolonization can best be implemented to replace a local population which has been depleted by a spill or other adverse circumstances. Results show that eider ducks have been successfully introduced to a location 200 miles away from their normal breeding area, an accomplishment achieved only one other time in this century. This work has great significance to such areas as the North Sea where petroleum operations might influence breeding populations. This work was highlighted in Mobil World.

Benefits to Mobil Foundation

In the event of an oil spill emergency, particularly on the East Coast, the Center will respond to take charge of all aspects of bird collection and rehabilitation under the direction of the spiller. This would include the necessary interface with government agencies and environmental groups. Mobil has utilized this service at a large spill incident and most East Coast cooperatives include the Center in their contingency plans for spill emergencies. Dr. Stanton responded to a threatened large Mobil spill off Cape Cod in 1990 and was very effective in working with the assembled government response agents. Dr. Stanton has participated in four oil spill drills at Port Mobil, E. Providence and Paulsboro and in 1991 played a significant role in a major oil spill exercise for a spill in the Beaumont, Tx area. Thus, Mobil benefits from the continued viability of this organization and the research work it conducts. Dr. Stanton also actively participates in Mobil training programs on the East Coast.

Funding beyond a three year period continues to assure the viability of this important oil spill resource and assure rapid response to any possible Mobil spill events. This type expertise would be most helpful to Mobil not only during the cleanup portion of a spill, but to gather data and provide testimony during litigation concerning environmental damage. Awards from this type of litigation can exceed the total cost of clean-up and mitigation activities.

Mobil Foundation, Inc.

grant recommendation

ORGANIZATION: The Academy of Natural Sciences  
ADDRESS: 1900 Benjamin Franklin Parkway, Philadelphia, PA  
ZIP CODE: 19103-1195  
ORGANIZATIONAL CONTACT: Dr. R. Patrick  
PROGRAM/DEPARTMENT: Environmental Associates Program

DATE: June 1993  
BUDGET YEAR: 1994  
AMOUNT: \$15,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): MOCORP, EHS  
MOBIL EMPLOYEE COORDINATING GRANT: J. C. Hildrew

501(C) (3) ATTACHED ☐  
(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
None	\$15,000 each  Air Products and Chemicals Arco Chemical Company E. I. DuPont deNemours & Co. FMC Corporation Milliken and Company Pennsylvania Power & Light Co. The Procter and Gamble Co. Rohm and Haas Company Scott Paper Company Sun Company Tennessee Eastman Company	     UNIT CODE: _____ CAT. CODE: _____

JUSTIFICATION:

Description of Activities and Programs

The Environmental Associates Program of the Academy of Natural Sciences is aimed at helping corporations solve problems using the contacts of the Academy and providing a unique technical perspective. Their activities include corporate-directed research activities and efforts to educate the public on environmental issues, based on sound science and facts instead of inaccurate claims. Much of their work tends to focus on water quality and solid waste problems.

Purpose of Grant

This is the first year of such a grant. Half the funds are used for sponsoring research, of which \$2000 is ear-marked for Mobil-specific work, and accumulates if unused, while the other half sponsors educational activities, including the Know Your Environment Series, articles in technical journals and materials for schools.

Effectiveness of Program/Organization

The Academy's scientists are nationally recognized experts in their fields. The Know Your Environment articles are thought-provoking and well-balanced, giving perspectives on the impact of regulations, validity of the underlying science, risk and cost-benefits analysis. Their tone is factual and objective. The articles are used in schools and as the basis for other articles published in the media. Articles of this caliber can only improve the understanding of complex environmental issues.

Benefits to Mobil Foundation

Based on the contacts of the Academy, the Environmental Associates Program has the potential to challenge the EPA behind-the-scenes on the effectiveness of a regulation for the environment and whether sound science supports the proposed law. As a member, Mobil can request the Environmental Associates provide input to our technical problems, particularly with respect to surface and groundwater. Current research includes work on the biodegradation of acid refinery sludges. In addition, supporting the Know Your Environment articles will better educate the public on key issues on the environment.



## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: .Bermuda Biological Station for Research  
 Address: .St. Georges West 1015  
 Zip Code: .Bermuda  
 Organizational Contact: .Dr. Anthony H. Knap, Director  
 Program/Department: .

Date: . 6/93  
 Budget Year: 1994  
 Amount: \$15,000

Recommending Mobil Unit (Co., Div. & Dept.): MOCORP, EHS  
 Mobil Employee Coordinating Grant: S. A. Horn

501(c)(3) attached ☐  
 (If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
.1982-89 - \$15,000	General Atlantic Grp \$100,000	
1990 - \$60,000	Exxon Corporation 50,000	
1991 - \$10,000	Texaco 40,000	
1992 - \$10,000	X.L. Foundation 40,000	
1993 - \$10,000	Bacardi Int. 50,000	
	Transworld Oil Ltd. 25,000	
		Unit Code: _____
		Cat. Code: _____

**JUSTIFICATION:**Description of Activities and Programs

The Biological Station for Research (BSR) is a unique research and educational institution. It is unique in being located at the northernmost coral reef system near the U.S., in providing easy access for research in deep waters offshore, and in being a relatively pristine environment particularly suitable for studying global transport of pollutants.

One recent programs which the BSR scientific staff has undertaken is a study of the effects of chemically dispersed oil on reef corals, which has helped to define when and how dispersants should be used in coral areas.

Purpose of Grant

This \$15,000 grant to Biological Station for Research for 1994 will be used for general research funding concerning the effects of accidental oil spills in coral reef areas and the most effective mitigation methods.

Effectiveness of Program/Organization

The BSR has a strong capability in chemical oceanography and analytical chemistry to complement their long standing expertise in biology. In summer months, the non-resident scientific staff often outnumber the permanent staff because many investigators for U.S. universities undertake projects which require the location and facilities of the BSR. Their staff is highly respected in the areas of coral reef biology and oil spill effects.

Reason for Increase/Decrease

BSR is expanding its summer internship program for third world students and needs additional funding. Countries where Mobil does business such as Nigeria and Indonesia are being specially targeted.

Benefits to Mobil Foundation

Dr. Knap continues to publish important scientific papers concerning the cleanup of spills in sensitive coral environments. At Mobil's invitation, he participated in an IPIECA seminar on oil spills in Caracas and went to Saudi Arabia to help us on a MOMSI oil spill training course. He is presently preparing a scientific publication for IPIECA on the effects of oil spills on coral environments. Dr. Knap's findings are generally quite supportive of oil industry activities and could also influence legislation and regulations favorable to Mobil's U.S. offshore operations. He authored a major IPIECA publication in 1993. Mobil Foundation support is frequently acknowledged in their annual report and other BBS information.

Funding beyond a three year period continues to assure the viability of this important oil spill resource and assure rapid response to any possible Mobil spill events. This type expertise would be most helpful to Mobil not only during the cleanup portion of a spill, but to gather data and provide testimony during litigation concerning environmental damage. Awards from this type of litigation can exceed the total cost of clean-up and mitigation activities.

## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: . Bowdoin College  
 Address: . Marine Research Laboratory, Brunswick, ME  
 Zip Code: . 04041  
 Organizational Contact: . Dr. Edward S. Gilfillan  
 Program/Department: .

Date: . 6/93  
 Budget Year: 1994  
 Amount: \$10,000

Recommending Mobil Unit (Co., Div. & Dept.): MOCORP, EHS  
 Mobil Employee Coordinating Grant: . S. A. Horn

501(c)(3) attached ☐  
 (If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
.1986 - \$ 9,000	Hewlett Packard \$ 83,000	
1987 - \$ 9,000	Exxon USA \$ 6,000	
1988 - \$ 9,000	Univ. of Maine	
1989 - \$10,000	Dept of Env. Prot. \$ 15,000	
1990 - \$65,000	Univ. of Maine \$ 29,000	
1991 - \$10,000	Land and Water	
1992 - \$10,000	Resource Center	Unit Code: _____
1993 - \$10,000	DuPont \$ 5,000	Cat. Code: _____

**JUSTIFICATION:**Description of Activities and Programs

The Marine Research Laboratory of Bowdoin College has gained prominence for its studies of the effects of oil spillage on the marine environment. Drs. Gilfillan and Page have undertaken research on impact of oil spills on tropical ecosystems, including mangrove swamps. They also study affects of chemically dispersed oil near sea grasses and salt marshes. Sea grasses and salt marshes found on soft bottoms in protected locations along many coasts of the world are considered at risk from oil contamination. Application of oil spill dispersants offshore often is considered a viable spill mitigation measure. But in some cases offshore application of dispersants would result in a cloud of dispersed oil passing over sea grass meadows or onto the marshes. Knowledge is limited on the effects of dispersed oil on the growth and survival of these species. As a result, those persons involved in creating guidelines for the use of dispersants currently are reluctant to recommend dispersant usage near shore. Preliminary information from laboratory experiments shows sea grasses and salt marshes may be more resistant to spill effects than was previously thought.

Purpose of Grant

The purpose would be to continue laboratory and controlled field experiments on the effects of chemically dispersed oil on sea grasses and salt marshes.

Effectiveness of Program/Organization

Their staff and laboratory facilities have earned an excellent scientific reputation, while maintaining a healthy attitude toward the oil industry's requirements for transportation and storage of petroleum on the world's waters. The laboratory continues to publish important scientific papers around the world based in part on work supported by Mobil Foundation. They are our most valuable marine pollution contacts outside the industry. Scientific papers based on work supported by Mobil Foundation continue to be published.

Benefits to Mobil Foundation

The research should strengthen Mobil's environmental programs in important operations areas such as the East Coast of Canada, California, Gulf of Mexico, and Nigeria. Also, Drs. Gilfillan and Page have testified on behalf of industry concerning the effects of oil spills in Puerto Rico, France and Alaska. They are valuable not only as expert consultants on oil spills, but could assist Mobil in marine science issues relating to offshore E&P operations. They publish frequently, acknowledging Mobil Foundation support.

Funding beyond a three year period continues to assure the viability of this important oil spill resource and assure rapid response to any possible Mobil spill events. This type expertise would be most helpful to Mobil not only during the cleanup portion of a spill, but to gather data and provide testimony during litigation concerning environmental damage. Awards from this type of litigation can exceed the total cost of clean-up and mitigation activities.

Mobil Foundation, Inc.

grant recommendation

ORGANIZATION: Lamont-Doherty Geological Observatory/  
Columbia University  
ADDRESS: Palisades, N. Y.  
ZIP CODE: 10964  
ORGANIZATIONAL CONTACT: L. C. Cox  
PROGRAM/DEPARTMENT:

DATE: June 1993  
BUDGET YEAR: 1994  
AMOUNT: \$25,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): MOCORP, EHS  
MOBIL EMPLOYEE COORDINATING GRANT: J. C. Hildrew

501(C) (3) ATTACHED ☐  
(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1991 - \$25,000	Companies contributing at least	
1992 - \$25,000	\$25,000	
1993 - \$25,000	Exxon	
	Shell	UNIT CODE: _____
	Texaco	CAT. CODE: _____
	Others	

#### JUSTIFICATION:

##### Description of Activities and Programs

Lamont-Doherty is a world-wide leader in earth and atmospheric studies. It has organized a consortium of petroleum companies to fund the development of an improved model of energy transfer between the atmosphere and oceans. This is critical to improving global climate models and to improving the prediction of global warming. API and IPIECA are acting as focal points of petroleum industry effort.

##### Purpose of Grant

Lamont-Doherty researchers continue to develop an improved computer model for energy transfer between the atmosphere and the oceans. This computer model will become part of the larger models predicting the impact of increased greenhouse gas emissions on global climate. Ultimately these models will be the basis for regulatory action. Lamont-Doherty researchers recently reported two findings with significance for constructing better global climate models: a negative feedback mechanism which compensates for the effect of melting sea ice on temperature rise and that small-scale geographic features can have large impact on the shape of ocean currents, making accurate ocean modelling more difficult than anticipated.

##### Effectiveness of Program/Organization

Lamont-Doherty is one of the few centers in the world capable of conducting a program of this type. They combine the earth science and computing background necessary for high-quality model development.

##### Benefits to Mobil Foundation

Global warming is likely to be the key international environmental issue of the 1990s. While there currently are no regulations limiting emissions of greenhouse gases, such regulations are a real possibility within the next five years. Technical information and understanding will be key to Mobil's ability to participate in the debate on these regulations. Lamont-Doherty conducts annual seminars for sponsors of this program, at which time Mobil scientists involved in the global warming issue can gain first hand understanding of the role of the oceans in global warming and develop personal relationships with some of the key experts on this issue. Continued support of this effort, particularly in light of recent findings, and participating at this level is far more valuable to Mobil than merely reading papers which will eventually be published.

Organization:	Columbia University	Date
Address:	New York, New York	Budg
Zip Code:	10032	Amou
Organizational Contact:	I. Bernard Weinstein	
Program/Department:	Division of Environmental Sciences	

Date: 6/11/93  
Budget Year: 1994  
Amount: \$9,000

Recommending Mobil Unit (Co., Div. & Dept.): MOCORP, EHS  
Mobil Employee Coordinating Grant: C. R. Mackerer

501(c)(3) attached ☐  
(If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1984-87 - \$20,000	None to this program	
1988-90 - \$15,000		
1991 - \$10,000		
1993 - \$ 9,000		
		Unit Code:
		Cat. Code:

**JUSTIFICATION:**

## PURPOSE

The purpose of this grant is to support a research proposal on the possible effects of non-genotoxic petrochemicals on protein kinase C, signal transduction and oncogene expression. There is increasing recognition of the fact that a number of chemicals enhance the carcinogenic process by mechanisms that do not appear to involve direct damage to the genetic materials. Certain components of refinery streams boiling in the middle distillate range fall into this class and produce skin tumors via a mechanism not involving direct damage to DNA. This project will study tumor promotion activity of a variety of chemicals as well as certain middle distillates. This year the methods development portion of the study was determined.

## EFFECTIVENESS

Columbia University is a prestigious teaching-research facility providing excellent training in many disciplines. The expertise in occupational health and closely related research in risk assessment has an international reputation for studying mechanism of action of carcinogens. He has done pioneering in studying the direct interaction of chemicals with cellular DNA. Dr. Weinstein and his associates developed the approach termed "molecular epidemiology" -- innovative biologic markers -- to be applied in studies of human exposure to carcinogens and mutagens. Publication of research is consistent.

## BENEFITS TO MOBIL

1. Balanced, informed education of the public.
2. Interaction with a well-known and respected center for the study of environmental diseases.
3. Work is of direct relevance to research being conducted at Mobil.



## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: Drexel University  
Address: Philadelphia, PA  
Zip Code: .  
Organizational Contact: Dr. Arthur L. Baehr  
Program/Department: Civil and Architectural Engineering Dept.

Date: 06/93  
Budget Year: 1994  
Amount: \$10,000

Recommending Mobil Unit (Co., Div. & Dept.): MOCORP/EHSD 501(c)(3) attached |  
Mobil Employee Coordinating Grant: C. J. DiPerna/J. P. Marum (If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
By U.S. Marketing: 1990 - \$10,000 1991 - \$10,000	API: \$125,000 over 2 yrs. (contract)	
		Unit Code: _____
		Cat. Code: _____

**JUSTIFICATION:**Description of Activities and Programs

The Civil Engineering Department at Drexel University supports a wide variety of environmental research. Of particular relevance to EHS and U.S. M&R is research on the movement and remediation of hydrocarbons in the unsaturated zone. The API has supported research at Drexel on the computer modeling of soil venting for removal of hydrocarbons. Drexel has recently developed a 3 dimensional soil venting model which they made available to Mobil, and are working on a contaminant transport module to couple to the venting model.

Purpose of Grant

The grant would help support Dr. Baehr's ongoing research in the field of computer modeling of soil venting systems and natural biodegradation. Dr. Baehr and colleagues currently are developing a three-dimensional vapor contaminant transport model which can be used to investigate natural biodegradation in the subsurface. At many Mobil sites natural biodegradation may be the most cost effective remedial action.

Effectiveness of Program/Organization

Drexel's Civil Engineering Department is one of the national leaders in the field of waste management and remediation. Their work through API on soil venting has been well received by participating oil companies.

Benefits to Mobil Foundation

U. S. Marketing and other Mobil divisions face high costs to remediate soil and groundwater contamination at service stations, terminals, and other facilities. The clean-up of hydrocarbon contamination in the unsaturated zone by soil venting and natural biodegradation is an emerging clean-up technology with significant potential for cost savings for Mobil and other oil companies. It is expected to be used more frequently in the future. The use of computer modeling to enhance our understanding of the basic principles of these processes will contribute to the cost-effective design of soil venting systems.

U.S. Marketing supports this grant recommendation.

## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: Greater Caribbean Energy & Environ. Foundation  
(Affiliated with Florida International Univ.)  
Address: 1359 SW 22nd Terrace  
Zip Code: 33145  
Organizational Contact: Dr. Anita Thorhaug  
Program/Department:

Date: 6/93  
Budget Year: 1994  
Amount: \$10,000

Recommending Mobil Unit (Co., Div. & Dept.): MOCORP, EHS  
Mobil Employee Coordinating Grant: S. A. Horn

501(c)(3) attached ☐  
(If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK FOR FOUNDATION USE ONLY:
1987 - \$ 5,000	Exxon Chem. - \$ 6,000	
1988 - \$ 5,000	World Bank - \$ 25,000	
1989 - \$10,000	U.N. Unesco, - \$ 15,000	
1990 - \$75,000	Kenya Govt. - \$ 30,000	
1991 - \$10,000	Phillipines Gvt \$ 6,000	
1992 - \$10,000	UNEP - \$ 8,000	Unit Code:
1993 - \$10,000		Cat. Code:

**JUSTIFICATION:**Description of Activities and Programs

The Greater Caribbean Energy and Environment Foundation was formed in 1980 by a Florida International University researcher using grant money from the USDOE. Dr. Anita Thorhaug is well known and respected for her mangrove and sea grass work in tropical environments. She and co-workers have published numerous papers, and are called upon for advice by United Nations groups, Caribbean governments, the U.S. Government and the State of Florida in this area.

Purpose of Grant

This \$10,000 grant will allow continuation of laboratory studies on the effects of oil and chemically dispersed oil on warm water sea grass and associated communities. Sea grasses are important coastal environments frequently considered at risk from oil contamination. Knowledge is lacking on the effects of dispersed oil and other treatment agents on the growth and survival of sea grasses and so persons involved in creating guidelines for the use of dispersants are reluctant to recommend dispersant use near grass beds.

Effectiveness of Program/Organization

At Mobil's request, Dr. Thorhaug gave a paper on her sea grass research at an IPIECA seminar in 1986. This paper was published in Marine Pollution Bulletin. Also at Mobil's request, Dr. Thorhaug went to Australia in 1987 to give a paper at a conference Mobil was promoting. Dr. Thorhaug was awarded a United Nations Global 500 award based partly on the work she did under earlier Mobil Foundation funding. She published three additional papers in 1990 based on Mobil support and had articles in the Reader's Digest and the National Geographic. At United Nations request, she has travelled to the Persian Gulf to advise on oil spill clean-up there.

Benefits to Mobil Foundation

Mobil's tanker routes, refineries, terminals and E&P facilities are commonly located in tropical sea grass areas. Should an oil spill occur, knowledge of how to best treat it to minimize ecological damage would be important to Mobil and government decision makers. Knowledge that effective response techniques are available also should help us obtain government permits while avoiding unreasonable regulations. Dr. Thorhaug represents a valuable Mobil interface with UNEP and UNDP oil spill related activities particularly in third world tropical countries. Her publications and input can have a positive influence in evolving regulations in lesser developed nations. Her publications in this area have acknowledged Mobil Foundation support.

Funding beyond a three year period continues to assure the viability of this important oil spill resource and assure rapid response to any possible Mobil spill events. This type of expertise would be most helpful to Mobil not only during the cleanup portion of a spill, but to gather data and provide testimony during litigation concerning environmental damage. Awards from this type of litigation can exceed the total cost of clean-up and mitigation activities.

grant recommendation

DATE: June 1993  
BUDGET YEAR: 1994  
AMOUNT: \$12,500

501 (C) (3) ATTACHED ☐  
(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1990-1993 - \$25,000		
		UNIT CODE: _____
		CAT. CODE: _____

### Description of Activities and Programs

HCRA was established in 1989 during congressional debate on the Clean Air Act Amendments when it became clear that key principles of risk analysis were not well understood or defended. The Center's mission is to enhance public health by promoting reasoned public responses to hazards by incorporating the risk analysis framework into public policy, education, and scientific research. Three current projects of particular interest to Mobil are "Competing Risks", "Lifesaving Priorities", and "Superfund Reform". These projects will stimulate public debate over the costs and benefits of various programs and whether America is making wise investments of its limited resources.

The purpose of this grant is to support continued public policy projects and basic research on risk analysis and its role in public policy development.

HCRA (and Director John Graham in particular) is recognized as a leading authority in the application of risk analysis to public policy. It has been effective in influencing Clean Air Act legislation on toxic emission standards and pointing out the safety risks associated with excessively stringent fuel economy standards. We expect the Center to play an influential role in consideration of future environmental legislative and regulatory actions.

Mobil will benefit significantly through the adoption of more cost-effective laws and regulations which give greater consideration to the cost/risk tradeoffs involved. Mobil's environmental expenditures exceeded \$1 billion in 1992. Without a greater appreciation of scientific risk analysis, these costs will continue to escalate as environmental rules and programs are made excessively stringent in response to the public's unfounded panic over relatively minor incidents. This grant request for \$12,500 is half of the \$25,000 to Harvard, with the other half being provided by the Corporate Medical Department.

**MOBIL FOUNDATION, INC.****GRANT RECOMMENDATION**

**Organization:** .University of Miami  
**Address:** .Coral Gables, Florida  
**Zip Code:** .33124  
**Organizational Contact:** .Professor Howard Teas  
**Program/Department:** .Department of Biology

**Date:** . 6/93  
**Budget Year:** 1994  
**Amount:** \$10,000

**Recommending Mobil Unit (Co., Div. & Dept.):** MOCORP, EHS  
**Mobil Employee Coordinating Grant:** .S. A. Horn

501(c)(3) attached ☐  
(If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
.1988 - \$ 5,000	Texaco - 18,500	
1986 - 5,000	Shell - 41,000	
1989 - 10,000	Esso Caribbean - 22,000	
1990 - 10,000	Exxon - 30,000	
1991 - 10,000	IBM - 92,000	
1992 - 10,000	Elf Aquitaine - 244,000	
1993 - 10,000	Florida P&L - 50,000	
		Unit Code: _____
		Cat. Code: _____

**JUSTIFICATION:**Description of Activities and Programs

The Biology Department of the University of Miami has expertise and research programs on tropical coastal biology and effects of oil spills.

Purpose of Grant

Funds would be used to develop techniques to restore tropical coastal habitats following oil spills. Specifically, the grant would help to fund a greenhouse-laboratory study using a variety of bioassays in an attempt to develop a rapid method of determining whether oiled sediments are safe for mangrove planting. With information from such a study, it may be possible to predict replanting success (or failure) with mangroves.

Effectiveness of Program/Organization

Professor Teas of the University of Miami is a world expert in mangrove ecology. He has developed considerable basic information on oil spill effects in mangrove ecosystems. At Mobil's request, he presented a paper on oil spills and mangroves at an International Petroleum Industry Environmental Conservation Association (IPIECA) Seminar in Caracas in January 1986. He has also been active in API and in developing ASTM standards for treating sensitive marine environments following oil spillage to minimize ecological damage. He published an important paper based on work supported by Mobil Foundation at the 1991 Oil Spill Conference and contributed to an IPIECA Technical publication in 1993.

Benefits to Mobil Foundation

Mobil's tanker routes traverse tropical areas of the world and several of E&P's active exploration and producing areas are in tropical coastal waters. A major oil spill in a mangrove ecosystem probably would involve significant mangrove kill and subsequent damage claims. Having an ability to reestablish as quickly as possible areas of mangrove kill could significantly reduce environmental damage, compensation, and adverse public relations. Also, the research would give us an objective criterion for mangrove recovery potential that would allow us to argue against excessive or premature replanting programs.

Funding beyond a three year period continues to assure the viability of this important oil spill resource and assure rapid response to any possible Mobil spill events. This type expertise would be most helpful to Mobil not only during the cleanup portion of a spill, but to gather data and provide testimony during litigation concerning environmental damage. Awards from this type of litigation can exceed the total cost of clean-up and mitigation activities.



**MOBIL FOUNDATION, INC.**
**GRANT RECOMMENDATION**
**Organization:** University of North Carolina - Chapel Hill

**Address:** Rosenau Hall, CB 7400, Chapel Hill, NC

**Zip Code:** 27599

**Organizational Contact:** David H. Leith (919) 966-3851

**Program/Department:** Air, Radiation and Industrial Hygiene Program/Department  
of Environmental Sciences and Engineering

**Date:** 6/93

**Budget Year:** 1994

**Amount:** \$10,000

**Recommending Mobil Unit (Co., Div. & Dept.):** MOCORP, EHS

**Mobil Employee Coordinating Grant:** W. J. Skocypec

501(c)(3) attached ☐  
(If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1982 - \$ 7,000	1992: Amoco - \$12,000	
1983 - 6,500	Shell - 10,000	
1984 - 7,500		
1985 - 7,500		
1991 - 10,000		
1992 - 10,000		
		Unit Code: _____
		Cat. Code: _____

**JUSTIFICATION:**
Description of Activities and Program

The Air, Radiation and Industrial Hygiene Program is a long-standing graduate level curriculum, which awards Masters and Doctorate degrees upon completion. Although the three main areas of this program (Air Pollution, Radiological Health and Industrial Hygiene) are of interest to Mobil, the emphasis on this grant recommendation is the Industrial Hygiene discipline.

Purpose of Grant

This proposed grant would assist the University's Industrial Hygiene graduate level program in their effort to maintain a state-of-the-art curriculum and continue to attract quality students. In addition, it would assist in purchasing equipment needed for student research projects. Due to budget reductions, federal funding via a National Institute for Occupational Safety and Health (NIOSH) grant has been continually declining over the last several years. Thus, industrial support is more relied upon to assist in the development of industrial hygiene professionals to meet the increasing demands of workplace health protection.

Effectiveness of Program/Organization

Mobil has employed several graduates of this program, including its present Manager of Industrial Hygiene, W. J. Skocypec. This program is considered by the academic world to be one of the higher quality, more effective programs in the U.S., as illustrated by the fact that this program was one of the first to receive ABET (Accreditation Board for Engineering and Technology, Inc.) accreditation.

Benefits to Mobil Foundation

By supporting this program, Mobil will gain an advantage in recruiting high caliber students for Industrial Hygiene internships and have a strong foundation of potential candidates for full-time positions, should they become available. In addition, two of the program's major research areas are engineering control technology and exposure assessment, both of interest to Mobil. For example, Dr. Stephen Rappaport, renown expert in exposure assessment statistical methodology, has conducted several analyses of petroleum industry worker exposures which have been favorably received by the industry.

Mobil Foundation, Inc.

grant recommendation

ORGANIZATION: North Carolina State University  
ADDRESS: P.O. Box 7905, Raleigh, N.C.  
ZIP CODE: 27695-7905  
ORGANIZATIONAL CONTACT: Peter K. Kilpatrick, Assoc. Prof.  
PROGRAM/DEPARTMENT: Department of Chemical Engineering

DATE: June 1993  
BUDGET YEAR: 1994  
AMOUNT: \$15,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): MOCORP., EHSD  
MOBIL EMPLOYEE COORDINATING GRANT: J. C. Hildrew

501(C) (3) ATTACHED ☐  
(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1991 - \$10,00 1992 - \$15,000 1993 - \$15,000	3M Company - \$11,000 Colgate - \$ 5,000 Akso - \$32,000	      UNIT CODE: _____ CAT. CODE: _____

JUSTIFICATION:

Description of Activities and Programs

Professor Peter K. Kilpatrick is an outstanding young researcher at N.C. State University. His three primary areas of research include: (1) fundamentals of emulsification of petroleum and its fractions, (2) phase equilibria of liquid crystal systems, and (3) modified surfactant systems for bio-separation. Professor Kilpatrick is also active in professional societies such as the American Chemical Society and American Institute for Chemical Engineers.

Purpose of Grant

The purpose of this grant is to provide general support to continue basic research which advance the state of knowledge about petroleum, emulsions, and wastes.

Effectiveness of Program/Organization

In 1989, Professor Kilpatrick was selected as principal investigator for Petroleum Environmental Research Forum (PERF) Project 88-07 entitled Basic Principles and Control of Refinery Emulsion Formation. This Mobil-sponsored project was joined by eleven other major oil companies, including Amoco, ARCO, BP, Chevron, Conoco, Marathon, Murphy, Petro-Canada, Shell, Texaco, and Unocal. The research completed was of high quality and utility to the petroleum industry.

Benefits to Mobil Foundation

This research is beneficial to petroleum industry in finding better ways to treat wastes and enhance knowledge of oil separation.

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## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: Princeton University

Address: Princeton, N.J.

Zip Code: 08544

Organizational Contact: Prof. M. A. Celia

Program/Department: Industrial Support Group for Groundwater  
Contamination Research/Dept. of Civil Engr.

Date: 6/93

Budget Year: 1994

Amount: \$10,000

Recommending Mobil Unit (Co., Div. & Dept.): MOCORP, EHSD 501(c)(3) attached  
Mobil Employee Coordinating Grant: C. J. DiPerna/J. P. Marum (If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1984 - \$5,000 1993-15,000	Other Industrial Support	
1986 - 5,000	Group Members include:	
1987 - 5,000	Shell, Phillips, DuPont,	
1988 - 10,000	American Cyanamid	
1989 - 10,000		
1990 - 10,000		
1991 - 10,000		Unit Code:
1992 - 15,000		Cat. Code:

JUSTIFICATION:Description of Activities and Programs:

Princeton University's Industrial Support Group for Groundwater Contamination Research has a number of relevant research programs including modelling of vapor transport in unsaturated soils, and pore scale modelling to predict contaminant dispersivity and mass transfer rates in heterogenous media.

Purpose of Grant:

The \$10,000 grant would help the Princeton group in their research on improvements in computer modeling, particularly their simulations of groundwater transport, and contaminant and vapor flow. Emphasis is on models for the vadose (unsaturated) zone.

Effectiveness of Program/Organization:

The Princeton groundwater contamination and flow models are well designed, developed and validated. Their modeling efforts are reasonable and help to reduce model uncertainty due to geological variability.

Reason for Increase/Decrease

The grant recommendation is being reduced to free up some funds for a new grant proposal to Drexel.

Benefit to Mobil Foundation:

Groundwater contamination continues to be of major environmental concern in the U.S. and worldwide. More accurate computer models that describe and predict what happens when product is released to the subsurface are needed for implementing risk based cleanup levels. Princeton's accomplishments are useful for Mobil cleanup efforts.

Organization: Rutgers University  
Address: P.O. Box 1059  
Zip Code: Piscataway, NJ 08854  
Organizational Contact: Robert Snyder, Ph.D.  
Program/Department: Joint Graduate Program in Toxicology

Date: 6/11/93  
Budget Year: 1994  
Amount: \$20,000

Recommending Mobil Unit (Co., Div. & Dept.): MOCORP, EHS  
Mobil Employee Coordinating Grant: C. R. Mackerer

501(c)(3) attached ☐  
(If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1981-1986 - \$24,000	Hercules - \$12,500	
1987-1993 - 20,000	J.M. Huber - \$7,000	
	Amoco - \$6,000	
	Smith-Kline	
	Beecham - \$25,000	
		Unit Code:
		Cat. Code:

**JUSTIFICATION:****PURPOSE**

The purpose of this grant is to provide continuing support for the Joint Graduate Program in Toxicology at Rutgers University under the direction of Dr. Robert Snyder.

The primary study areas include benzene toxicity and leukemogenesis, neurotoxicology, ethanol toxicity, tumor promotion and initiation, ecotoxicology, and immunotoxicology.

**EFFECTIVENESS**

The joint toxicology program headed by Dr. Snyder is housed in the Environmental and Occupational Health Sciences Institute. This inter-university, interdepartmental program, one of the finest in the United States, offers students a well rounded education in general toxicology and the opportunity for in-depth studies in specialty areas. Since inception it has graduated 40 Ph.D.'s in toxicology, most of whom now work in industry with some in the oil industry. EOHSI is the first NIH center of excellence in New Jersey (for environmental health sciences) and has recently been awarded a renewal of their training grant.

**BENEFITS TO MOBIL**

1. Areas of research are relevant to Mobil.
2. Fosters cooperation between EHSL and academia.
3. Provides a resource for consultants and trained professionals.
4. Rutgers, the State University of New Jersey, provides courses and other services (e.g. library) which are used regularly by EHSL.

Organization: Rutgers University  
College of Pharmacy  
Address: P.O. Box 789  
Zip Code: Piscataway, NJ 08854  
Organizational Contact: Allan H. Conney, Ph.D.  
Program/Department: Dept. of Chemical Biology & Pharmacognosy

Date: 6/11/93  
Budget Year: 1994  
Amount: \$10,000

Recommending Mobil Unit (Co., Div. & Dept.): MOCORP, EHS  
Mobil Employee Coordinating Grant: C. R. Mackerer

501(c)(3) attached ☐  
(If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1989-93 - \$10,000	Colgate-Palmolive \$20,000 Hoffmann-LaRoche 20,000 Lipton Co. 50,000	
		Unit Code:
		Cat. Code:

**JUSTIFICATION:****PURPOSE**

The purpose of this grant is to continue funding for the prestigious basic research and teaching program conducted by Dr. Allan Conney in the Department of Chemical Biology and Pharmacognosy at Rutgers University. Dr. Conney's papers are among the most cited in the world by scientists in toxicology, biochemistry, and pharmacology. Studies are conducted in many areas involving cancer causation, and part of their research focus is of direct interest to Mobil:

1. the carcinogenic activity of polynuclear aromatic hydrocarbons (PAH);
2. the inhibitory effects of naturally occurring dietary constituents and their derivatives on chemical carcinogenesis and ultraviolet light-induced carcinogenesis from PAH; and
3. the properties of the many cytochrome P-450 isoenzymes which may specifically metabolize drugs and carcinogens such as PAH.

**EFFECTIVENESS**

Dr. Conney's laboratory continues to increase in stature. Current staff is approximately 60. Mobil-supported research this year has involved studies on dietary inhibitors of carcinogenesis, dose-dependent differences in the mutation profile of ultimate carcinogens of polycyclic aromatic hydrocarbons, mechanisms of cellular differentiation, and interactions between a DNA virus and cellular targets that are important for the malignant transformation of cells. Their research is published and adds to the scientific literature.

**BENEFITS TO MOBIL**

1. Research is important to EHSL programs and to risk assessment.
2. Fosters cooperation between academia and Mobil.
3. Provides EHSL with technical advice on mechanisms of PAH-induced carcinogenesis.

Organization: Rutgers University  
College of Pharmacy  
Address: Piscataway, NJ  
Zip Code: 45267  
Organizational Contact: Edmond J. LaVoie, Ph.D.  
Program/Department: Dept. of Pharmaceutical Chemistry

Date: 6/11/93  
Budget Year: 1994  
Amount: \$20,000

Recommending Mobil Unit (Co., Div. & Dept.): MOCORP, EHS  
Mobil Employee Coordinating Grant: C. R. Mackerer

501(c)(3) attached ☐  
(If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1992 - \$16,000 1993 - \$20,000	None	
		Unit Code:
		Cat. Code:

**JUSTIFICATION:**PURPOSE

The purpose of this grant is to support a research effort directed at gaining an understanding of the mutagenicity and carcinogenicity of nitrogen heterocycles which are present in refinery streams and are represented by carbazole structures in cracked streams. During the past year approximately 24 select carbazole derivatives were synthesized, purified, and evaluated for mutagenic activity. Several of them exhibited significant mutagenicity and studies are now in progress to determine the mechanistic basis for these findings.

Studies also continue to identify the fluorescent urinary metabolite associated with topical application of fractions of light cycle oils. This metabolite, once identified, may serve as a useful marker of exposure to complex mixtures.

EFFECTIVENESS

The School of Pharmacy is highly regarded both for teaching quality as well as research. E. J. LaVoie is very well known for his publications on the genetic toxicology of alkyl carbazoles in coal tar.

BENEFITS TO MOBIL

1. The research project has direct relevance to EHSL projects which are evaluating carcinogenicity/toxicity of streams and urinary biomarkers of exposure.
2. Fosters cooperation between academia and EHSL.
3. Scientists at the School of Pharmacy conduct other research on hydrocarbons which would be of interest to EHSL.



Organization: SRI International  
Address: 333 Ravenswood Ave.  
Zip Code: Menlo Park, CA 94025  
Organizational Contact: Charles A. Tyson  
Program/Department: Methods Development

Date: 6/11/93  
Budget Year: 1994  
Amount: \$20,000

Recommending Mobil Unit (Co., Div. & Dept.): MOCORP, EHS 501(c)(3) attached ☐  
Mobil Employee Coordinating Grant: C. R. Mackerer (If New Organization) ☐

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1990 - \$10,000 1992-1993 - \$20,000	None to this program	
		Unit Code:
		Cat. Code:

**JUSTIFICATION:**PURPOSE

The purpose of this grant is to provide support for SRI International to perform a methods development study under the direction of Dr. C.A. Tyson. Experiments are being performed to develop methods to preserve human skin specimens for extended periods of time so that metabolism studies of suspect carcinogens can be performed under controlled experimental conditions. Results of such experiments will then be compared with results of similar studies on rodent skin.

During the past year conditions for storage of cultures was determined as well as a viability measurement microtechnique that allows work with a small amount of tissue.

EFFECTIVENESS

SRI International is a well-known nonprofit research and business consulting organization. In 1987, it acquired the David Sarnoff Research Center. It has a world-wide presence with a professional staff of 3,000. SRI works closely with companies that sponsor research and form, when appropriate, joint collaborative teams. Efforts are very much focused on the specific problem to be addressed and they are recognized for a high level of productivity.

BENEFITS TO MOBIL

1. Provides resources and data which complement and strengthen the current Mobil research in percutaneous absorption and cutaneous metabolism (risk assessment for dermal exposure to components present in our processes, products and wastes).
2. Results will aid EHSI in the proper interpretation of dermal toxicity studies including skin cancer studies.
3. Fosters interaction between SRI scientists with varied research interests and the EHSI scientists who are narrowly focused.

## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: Virginia Polytechnical Institute & State University Date: 06/93  
Address: Blacksburg, VA Budget Year: 1994  
Zip Code: 24061-0404 Amount: \$ 6,500  
Organizational Contact: Prof. J. C. Parker  
Program/Department: Center for Environmental and  
Hazardous Materials Studies  
Recommending Mobil Unit (Co., Div. & Dept.): MOCORP, EHSD 501(c)(3) attached ☐  
Mobil Employee Coordinating Grant: C. J. DiPerna/J. P. Marum (If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
By U.S. Marketing: 1990 - \$10,000 1991 - \$10,000	EPA : \$600,000 (over 3 yr.) Amoco: \$15,000/yr. EPRI : \$120,000 (over 3 yr.) API : Av. \$40,000/yr. for last 4 - 5 yrs.	      Unit Code: Cat. Code:

**JUSTIFICATION:**Description of Activities and Programs

VPI's Center for Environmental and Hazardous Materials Studies is well recognized in the field of saturated and unsaturated groundwater flow and contaminant migration. Recent emphasis involves coupling free phase and dissolved hydrocarbon transport models to investigate clean-up, and developing an integrated site assessment and remediation support model for more cost effective site remediation.

Purpose of Grant

The purpose of the grant would be to support VPI's ongoing research on computer modeling of subsurface soil, free product and groundwater remediation. Two research areas are of interest to EHS and U.S. M&R: (1) VPI's efforts to couple dissolved phase transport to the ARMOS free product model, and (2) VPI's effort to develop an integrated modeling approach for maximizing oil recovery, minimizing water pumping, performing a mass balance on site contaminants, and using this data to reduce clean up cost.

Effectiveness of Program/Organization

Existing models developed at VPI are state-of-the-art for application to soil, free product and groundwater assessment and remediation. They have been successfully used by Mobil and other major oil companies.

Benefit to Mobil Foundation

M&R's and REEA's engineers and scientists would have rapid access to new research findings from Professor Parker's group. Assessment and remediation of soil, free product and groundwater continues to be a major focus at Mobil service stations, terminals, refineries, and other facilities. Significant advances in computer modeling capabilities in this field will enhance Mobil's efforts to find cost-effective solutions to this problem.

U.S. Marketing supports this grant recommendation.



grant recommendation

DATE: June 1993  
BUDGET YEAR: 1994  
AMOUNT: \$20,000

501(C) (3) ATTACHED ☐  
(IF NEW ORGANIZATION)

[illegible]

### Description of Activities and Programs

### Purpose of Grant

The purpose of this grant is to provide funding for the Coastal Research Center, which trains foreign scientists, evaluates problems such as the effects of pollution on marine life, examines the effects of global warming, important delta processes, subsidence, salt water intrusion, flooding, loss of wetlands and pollution on fisheries in the US and CIS.

### Effectiveness of Program/Organization

Woods Hole scientists are nationally and internationally recognized and are frequently called upon to assist the Republics of the former Soviet Union, to testify on national OCS programs, policies, and funding including offshore oil and gas leasing. Woods Hole scientists work on water pollution issues in the Black Sea and Kazakhstan. Woods Hole scientists also are among the most prolific publishers of oceanographic research results.

## Benefits to Mobil Foundation

Mobil's E&P Division is fostering cooperative relationships with the former Soviet Republics . Woods Hole has been very visible in addressing CRC issues. In addition, Mobil has extensive E&P operations in and around the Mississippi River delta and other deltas. Activities associated with oil and gas exploration and producing often are blamed for the loss of Louisiana wetlands. Woods Hole has many activities associated with OCS development and subsidence issues in deltas. While oil and gas activities may be a contributor to wetlands losses, other factors probably are more important. Among scientists who are examining these many other factors, only the Woods Hole scientists seem to be seriously evaluating global phenomena such as plate tectonics and rising sea levels as contributors to wetlands losses and local delta subsidence.

E&P supports this recommendation.

u:flan.cac

**MOBIL FOUNDATION GRANTS  
MRDC ENGINEERING 1994**

<b>EDUCATIONAL</b>	<b>SPONSOR</b>	<b>PROPOSED</b>
Bucknell University	Process	5,000
University of Delaware	Process	3,000
University of Delaware	Process	7,000
Drexel University	DEPE	5,000
Drexel University	Process	5,000
Florida A&M University	Process	8,500
Florida A&M University	Process	6,000
Lehigh University	Process	7,000
Lehigh University	Process	3,000
Lehigh University	Facilities	9,500
Manhattan College	Process	5,000
Michigan Consortium in Offshore Engineering	DEPE	5,000
New Jersey Institute of Technology	Process	5,000
New Jersey Institute of Technology	Process	4,500
Princeton University	Process	5,200
South Dakota School of Mines & Technology	DEPE	5,000
Washington University School of Engineering	DEPE	5,000
Worcester Polytechnic Institute	Process	5,000
<b>Subtotal</b>		98,700
<b>CORPORATE &amp; COMMUNITY AFFAIRS</b>		
University of Maryland - Fire Protection	Facilities	7,500
University of Maryland - Process Control	Facilities	5,000
<b>Subtotal</b>		12,500
<b>DIVISION TOTALS</b>		
Process		69,200
Facilities		22,000
DEPE		20,000
<b>TOTAL</b>		111,200

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
 \*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
 PRE-BUDGET UNIT REPORT AS OF 04/28/93

ENGR UNIT CODE-31500  
 EDUCATION

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00137 P15372	Alabama, University of Chemical Engineering Dept-undergraduate facilities		2,000	5,000	--- ✓
I00164 P05431	Bucknell University Chemical Engineering Dept-general support		10,000	5,000	5,000 ✓
I00172 P08704	Clarkson University Ice Mechanics Research Lab		5,000		---
I01484 P01623 P09155	Cooper Union Engineering/Chemical Engineering-equipment purchase ** Engineering/Chemical Engineering-research projects **				---
I00188 P01413 P15454	Dartmouth College, Trustees of Thayer School of Engineering-Cold Regions Science ** Thayer School of Engineering-Ice Research Lab			7,000	---
I00194 P12771 P15455	Drexel University Chemical Engineering Dept-general support Engineering Geology Dept		5,000	5,000 3,000	5,000 ✓ 5,000 ✓
I00202 P13092 P13098 P14345	Florida A&M University Life-Gets-Better Scholarship program Publication support Minority Introduction to Engineering (MITE)	**	8,500 15,000	8,500 10,000	8,500 ✓ 6,000 ✓
I00239 P12755	Iowa Foundation, State University of Institute of Hydraulic Research		8,500		---
I00250 P00332 P01660 P12772	Lehigh University College of Engineering & Physical Sciences-general Materials Science & Engineering Dept-outreach Materials Science & Engineering Dept-undergraduate		10,000 3,000 5,000	10,000 3,000 6,500 }	7,000 ✓ 9,500 ✓
I00257 P01358 P01359	Manhattan College Chemical Engineering Dept-Capital Development Chemical Engineering Dept-Design Oriented MS	**	10,000	5,000	5,000 ✓
I00261 P05373	Maryland Foundation, Inc., University of Fire Protection Engineering Dept-General support	**			
I00271 P08705 P10023	Michigan, University of Naval Architecture & Marine Engineering Dept. Naval Architecture & Marine Engineering	**	5,000	5,000	5,000 ✓

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
 \*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
 PRE-BUDGET UNIT REPORT AS OF 04/28/93

ENGR UNIT CODE-31500  
 EDUCATION

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I01023	New Jersey Institute of Technology, Foundation a				
P00384	General support		3,000	3,500	5,000 ✓
P00385	Urban engineering program-general support	**			
P05430	Center of Pre-College Programs		3,000	3,000	4,500 ✓
I00326	Pittsburgh, University of				
P15371	Chemical Engineering Dept-high school students		5,000	5,000	--- ✓
I00002	Princeton University				
P01179	Chemical Engineering Dept-Graduate program support	**			
P08706	Chemical Engineering Dept-Computer-Aided Systems		7,500	4,200	5,200 ✓
I00336	Rice University, William Marsh				
P01661	Civil Engineering Dept-graduate program		5,000		---
I00423	South Dakota School of Mines & Technology				
P15456	Civil Engineering Dept-concrete materials research			5,000	5,000 ✓
I00455	Villanova University				
P01338	Chemical Engineering Dept-general support	**			---
I00474	Worcester Polytechnic Institute				
P01528	Chemical Engineering Dept-equipment purchase		5,000	5,000	5,000 ✓
TOTAL EDUCATION			115,500	98,700	98,700
TOTAL 31500			115,500	98,700	98,700

ENTER BELOW ANY NEW PROPOSALS YOU WOULD LIKE TO SPONSOR:

UNIT NAME	UNIT CODE	INSTITUTION NAME	PROPOSAL NAME	AMOUNT
ENGR	31500	University of Delaware	Chemical Eng'rg Department	\$3,000 ✓
ENGR	31500	University of Delaware	RISE Scholarships	\$7,000 ✓
ENGR	31500	Lehigh University	Women in Science & Eng'rg	\$3,000 ✓
ENGR	31500	Washington University	Graduate Program/Structural Engineering	\$5,000 ✓

APPROVED

*R. Tselentis*

DATE

*7/1/93*

NOTE: \*\* THIS PROPOSAL WAS RECOMMENDED IN A YEAR PRIOR TO 1992

PAGE 3

04/28/93  
REPORT JAL1

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
PROPOSALS ASSUMED BY CCA (30102)  
FOR UNIT 31500

INST/PROP NUMBER	ORGANIZATION/PROPOSAL NAME	BUD CAT	1992 AMOUNT	1993 AMOUNT	1994 AMOUNT
I08420	Maryland Foundation, Inc., University of				
P00755	Fire Protection Engineering Dept-general support	EDUC	3,000	7,500	7,500 ✓
P01569	Center for Minorities in Sci & Engr-Mobil Minority	EDUC	2,500	5,000	---
TOTAL Maryland Foundation, Inc., University of			5,500	12,500	12,500
TOTAL UNIT 31500			5,500	12,500	12,500

New: University of Maryland      Chemical Process Systems Lab      \$5,000

**MOBIL FOUNDATION, INC.****GRANT RECOMMENDATION**

Organization: University of Maryland Foundation  
Address: Fire Protection Engineering Curriculum Fund  
Zip Code: 20742

Date: May 26, 1993  
Budget Year: 1994  
Amount: \$7,500

Organizational Contact: Dr. John L. Bryan  
Program/Department: Fire Protection Engineering Department  
College of Engineering  
Recommending Mobil Unit (Co., Div. & Dept.): MRDC, Engineering

501(C) (3) Attached ☐  
(If New Organization)

Mobil Employee Coordinating Grant: L. C. Brown

Previous Grants by Mobil		Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1981-\$4,000	1988-\$2,000	Simplex Time Recorder \$100,000	
1983-\$1,500	1989-\$3,000	Hartford Steam Boiler \$25,000	
1984-\$2,500	1990-\$3,000	Cerberus Pyrotronics \$10,000	
1985-\$2,500	1992-\$3000	Rolf Jensen & Assoc. \$ 7,000	
1986-\$2,000	1993-\$7,500	National Electrical Mft \$ 5,000	
1987-\$2,000		Marsh & McLennan \$ 3,000	Unit Code:
		Reliable Auto. Sprinkler \$ 2,500	Cat. Code:

**JUSTIFICATION:** The University of Maryland Fire Protection Engineering curriculum is the only professionally accredited four year engineering education program at the BS level in Fire Protection Engineering. Since 1962, this program has provided 536 BS level fire protection engineering graduates, some employed by Mobil in operational and Corporate Engineering. The University started a graduate level program in fire protection engineering in 1990 and has provided 5 MS level fire protection engineering graduates. The curriculum has contributed significantly to development of fire safety technology and engineering practices. Emphasis is placed on government and private sponsorship of student research programs and faculty grants.

In the past two years, Mobil Foundation grants have aided the purchase of equipment for the curriculum's fire testing laboratory such as to update and modify the lateral ignition and flame spread apparatus and to construct an ASTM E-69 tube apparatus. The University of Maryland Foundation will continue to utilize Curriculum Fund grants in support of an endowment for the Academic Distinguished Chair/Professorship at the graduate level. The Curriculum Fund grants will also be used to support research, faculty needs and students.

The complexity of fire protection problems within the hydrocarbon and petrochemical industries and the growing number of and complexity of both national and international regulations governing these industries emphasizes the need to continue to support professional engineering programs. Development of advanced protection methods and techniques for these complex issues depends on a valid technological base of engineering principles developed through established curriculum such as the Fire Protection Engineering Program at the University of Maryland. MRDC Engineering has supported the curriculum via a Mobil Foundation grant since 1981 and continued support in 1994 is recommended.

NCO-4309A (5-81)

## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: University of Maryland  
Address: College Park, MD  
Zip Code: 20742  
Organizational Contact: Prof. T. J. McAvoy  
Program/Department: Chemical Process Systems Laboratory

Date: June 21, 1993  
Budget Year: 1994  
Amount: \$5,000

Recommending Mobil Unit (Co., Div. & Dept.): MRDC ENGINEERING  
Mobil Employee Coordinating Grant: W.L. Walker

501(c)(3) attached ☐  
(If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1985 - \$15,000	\$15,000 annually each from	
1986 - \$15,000	Amoco, Arco, Shell, Exxon,	
1987 - \$15,000	DuPont, Foxboro, Procter &	
1988 - \$15,000	Gamble, Eastman Kodak, and	
1989 - \$15,000	Fisher Controls.	
1990 - \$15,000		
1991 - 0		
1992 - 0		
1993 - 0		
		Unit Code: _____
		Cat. Code: _____

## JUSTIFICATION:

The University of Maryland Chemical Process Systems Laboratory has as its objectives:

- The promotion of industry-university interactions in the areas of process analysis, optimization and control.
- The completion of basic research at the forefront areas of process dynamics and control.
- The research and development of advanced control strategies for chemical and biochemical industrial processes.
- The development and application of advanced industrial sensors.
- The development of new and innovative techniques for chemical, biochemical and petroleum engineering education and training.

The Laboratory was established in 1982. It seeks industrial support of \$15,000 per year with a three year commitment from each company. Mechanisms are established which provide for regular interactions between the Laboratory and its sponsors. We are most impressed with the research work of the Laboratory and its potential for industrial applications.

In 1991 through 1993 the program was supported by S&T funds. With significant S&T reductions for 1994, we propose to contribute \$5,000 through Mobil Foundation to demonstrate continued interest and support for the program until such time that we can reestablish S&T support for the program. This contribution will help maintain our contacts with the University staff permitting the opportunity to continue receiving benefit from the research program.

Ongoing research projects relate to (i) distillation column control, (ii) development of expert systems for chemical process control, (iii) multivariable control methodology, (iv) control of polymerization reactors, and (v) applying an artificial intelligence approach to enhance chemical plant operators' capability to handle complex operational problems. All projects have industrial relevance and should contribute to making U.S. industry more competitive.



The Chemical Process Systems Laboratory is an important part of the Center for Systems Research at Maryland which was among 5 out of 143 centers selected for funding by the National Science Foundation.

In summary, the Laboratory is assuming a leadership position in process control research and application of the developed technology to solve industrial problems. We recommend that Mobil Foundation continue to support the program in 1994.

mf\_grant.wp5



## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: Bucknell University  
 Address: Lewisburg, PA  
 Zip Code: 17837  
 Organizational Contact: Dr. William King, Chairman  
 Program/Department: Professor William Snyder  
 Department of Chemical Engineering

Date: June 15, 1993  
 Budget Year: 1994  
 Amount: 5,000

Recommending Mobil Unit (Co., Div. & Dept.): MRDC ENGINEERING 501(c)(3) attached ☐  
 Mobil Employee Coordinating Grant: D. J. Harrison, Mgr., PED (If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1984 - \$ 7,000	Exxon	
1985 - \$ 7,000	Westinghouse	
1986 - \$ 7,000	National Cancer Center	
1987 - \$10,000	National Bureau of Standards	
1991 - \$10,000		
1992 - \$10,000		
1993 - \$ 5,000		
		Unit Code:
		Cat. Code:

## JUSTIFICATION:

Bucknell University is a highly regarded private institution located in central Pennsylvania at Lewisburg. Bucknell has been targeted for Research & Engineering's Recruiting programs because of the quality of its research and students.

The Chemical Engineering Departments at Focused Recruiting schools are among the most highly regarded departments in the nation. We have successfully recruited highly capable graduates from Bucknell in the past and would like to increase our recruiting effectiveness in the future. Hence, we propose a grant of \$5,000 in 1994 to be used by the Department of Chemical Engineering. The current recommendation is to continue limited support for research activities.

## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: University of Delaware  
 Address: College of Engineering  
 Newark, DE  
 Zip Code: 19716  
 Organizational Contact: Professor M. Klein  
 Program/Department: Chemical Engineering Department

Date: June 15, 1993  
 Budget Year: 1994  
 Amount: 3,000

Recommending Mobil Unit (Co., Div. & Dept.): MRDC ENGINEERING  
 Mobil Employee Coordinating Grant: D. J. Harrison, Mgr., PED

501(c)(3) attached ☒  
 (If New Organization)

Previous Grants by Mobil		Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1982-83	\$10,000	Air Products & Chemicals	
1984-87	\$ 5,000	Allied Signal Amer.Cyanamid	
1988-93	\$10,000	Amoco BASF	
		Chevron BOC Group	
		DuPont Celanese	
		Exxon BP America	
		W. R. Grace Dow	Unit Code:
		ICI Americas and 15 others.	Cat. Code:

## JUSTIFICATION:

Recommended Grant

We recommend \$3,000 grant to the Department of Chemical Engineering at the University of Delaware.

Purpose

The purpose of this grant is to support the educational and research activities of the Department.

Effectiveness

The Department is widely recognized as one of the outstanding chemical engineering departments in this country, both for undergraduate and graduate education. It has consistently placed in the top ten departments based on nationally recognized rankings. The Department's strongest point is in research activities in the fields of catalysis, kinetics, and reaction engineering. In these areas, the faculty represents a critical mass which is probably not exceeded in any university in the United States. Their research abilities and interests are broadly based, ranging from the basic chemistry of catalytic surfaces through reaction kinetic studies of heterogeneous catalysis, to reactor design, and optimization studies.

Benefit to Mobil

We have successfully recruited highly capable graduates from the University of Delaware in the past and expect to continue to do so in the future. The Department has been particularly valuable to Mobil as a source of scientific information. Their expertise in kinetics and catalysis has given insight and understanding to members of CRL. The staff also are a good conduit to activities in catalysis, kinetics and reaction engineering throughout the world.

## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: University of Delaware  
Address: College of Engineering  
Newark, DE  
Zip Code: 19716

Date: June 15, 1993Budget Year: 1994Amount: 7,000

Organizational Contact: Michael Vaughn, Director, Asst. Dean & RISE Director  
Program/Department: The Resources to Insure Successful  
Engineers (RISE) Scholarships  
College of Engineering

Recommending Mobil Unit (Co., Div. & Dept.): MRDC ENGINEERING 501(c)(3) attached ☒   
Mobil Employee Coordinating Grant: D. J. Harrison, Process Engr. (If New Organization)

Previous Grants by Mobil		Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1983-1991	\$5,000	Dupont	
1992	\$6,000	Amoco	
1993	\$6,000	Westinghouse	
		Hercules	
			Unit Code: _____
			Cat. Code: _____

## JUSTIFICATION:

The Resources to Insure Successful Engineers (RISE) program provides academic and career related assistance for minority students. The RISE program dates back to 1972, as such it is one of the oldest minority engineering support programs in the country, currently assisting over 100 students.

We recommend a grant of \$7,000; \$3,500 for program support, i.e. pre-freshman engineering enrichment Summer Academy, tutoring, counseling, and special academic recognition programs; and \$3,500 to be divided equally by two students majoring in disciplines of interest to Mobil, who have shown academic proficiency, ranking minimally in the upper 50% of their graduating class. We have been successful in linking this scholarship to summer employment.

The RISE program has produced a number of outstanding summer and permanent hires including John Gold, President of their NSBE chapter, and a Mobil hire. Moreover, for the past three years, Mobil has been named "Outstanding Corporate Sponsor".

We recommend continuation of this highly successful program as a vital component of our strategy to attract minority engineers from this important source of future Mobil talent.

**MOBIL FOUNDATION, INC.**

**Grant Recommendation:**

Date: 06/03/93

Budget Year: 1994

Amount: \$5,000

Organization: Drexel University  
Address: Civil and Architectural Engineering Department  
Zip Code: 32nd & Chestnut Streets, Philadelphia, PA 10104  
Organizational Contact: Dr. Edward Doheny  
Program/Department: Engineering Geology Department

Recommending Mobil Unit (Co., Div. & Dept.): MRDC/DEPE

501(c)(3) attached  
(if new organization)



Mobil Employee Coordinating Grant: R. W. Ingersoll

<b>Previous Grants by Mobil</b>  1993: \$3,000	<b>Grants by Other Corporations:</b>  N/A	<b>DO NOT WRITE IN THIS BLOCK For Foundation Use Only:</b>    Unit Code:  Cat. Code:
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**JUSTIFICATION:**

Drexel University has a well established program in Civil Engineering. Considerable work on bonding in sands has been conducted recently and, as an outgrowth, investigation of chalk grain-to-grain and grain-to-steel interaction has started. This work is enhanced by cooperation between the Engineering Geology program and the Department of Materials Engineering. These departments have optical and sub-optical equipment (e.g. scanning electron microscopes) available to investigate factors influencing strength gain in remolded chalk.

This on-going research is of interest to Mobil since it relates to the use of foundation piles for offshore platforms founded on chalk sites. No universally accepted design guidelines exist at present and, as a result, designs are conservative with longer, more costly piles, being required. Mobil recently encountered two locations, in the North Sea, with significant chalk layers below the seabed: Guinevere and Excalibur.

The grant is to be used to continue supporting graduate students under the supervision of Dr. Edward Doheny, Director of Engineering Geology. The objective is to provide a fundamental linking of remolded chalk strength to granular bonding and improve the ability to predict pile capacity in chalk.

## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: Drexel University  
 Address: Philadelphia, Pennsylvania  
 Zip Code: 19104  
 Organizational Contact: Dr. Charles Weinberg  
 Program/Department: Department of Chemical Engineering

Date: June 15, 1993  
 Budget Year: 1994  
 Amount: 5,000

Recommending Mobil Unit (Co., Div. & Dept.): MRDC ENGINEERING 501(c)(3) attached ☐  
 Mobil Employee Coordinating Grant: D. J. Harrison, Mgr., PED (If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1981 - \$ 5,000	Exxon	
1982/1985 - \$ 7,000	DuPont	
1986/1990 - \$10,000	Rohm & Haas	
1991 - \$10,000	Air Products	
1992 - \$ 5,000	Monsanto	
1993 - \$ 5,000		
		Unit Code:
		Cat. Code:

## JUSTIFICATION:

Recommended Grant:

We recommend a 5,000 grant to Drexel University's Department of Chemical Engineering for 1994.

Purpose of Grant:

The purpose of the grant is to support Drexel's Chemical Engineering Department.

Effectiveness:

The Chemical Engineering Department is accredited by the AIChE and offers BS, MS, and PhD degrees. Most students participate in the cooperative education program and graduate with eighteen months of industrial experience. MRDC Engineering has participated in their cooperative program for many years by employing Drexel students, including qualified minority students, during their industrial training assignments. During 1992, Process Engineering employed five students from the cooperative program.

Benefits to Mobil:

Drexel is a local school with a high quality technical program. Members of our staff pursue graduate degrees through its extensive night programs. Many family members of Mobil employees attend Drexel. A commitment to Drexel demonstrates our interest as a member of the local technical community in its growth and in high quality performance.

### GRANT RECOMMENDATION

Date: June 15, 1993

Budget Year: 1994

Amount: 8,500

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK
1992 - \$8,500	BP America	For Foundation Use Only:
1993 - \$8,500	Bell South	
	Eastman Kodak	
	3-M	
		Unit Code:
		Cat. Code:

**Recommended Grant:** \$8,500 to Florida A&M University to support an engineering student with a Life-Gets-Better scholarship. The scholarship recipient who is selected by the president, is an incoming freshman who is a consistently high academic achiever and also is highly motivated. The sponsoring company also agrees to consider hiring the student each summer. They must maintain at least a 3.0 grade point average in the Technical courses to remain in the program.

**Purpose of the Grant:** Mobil is striving to increase its representation of Blacks and Hispanics in engineering. The FAMU/FSU College of Engineering offers majors in chemical, mechanical, electrical, civil and industrial engineering. FAMU's enrollment in engineering has increased over 50% since 1987 and is projected to increase further by another 50% by the year 2000. Of the 1624 students currently enrolled in the engineering program, 631 are Black and 79 are Hispanic. This provides a significant pool of minority candidates for our college recruiting program.

**Effectiveness:** There are limited sources of minority engineering candidates enrolled at our team or focus schools. Florida A&M University, a historically black school, with its combined engineering school with Florida State University provides a large pool of minority students. We see an opportunity for these numbers to increase in encouraging outstanding high school students to pursue studies in engineering at Florida A&M University.

**Benefit to Mobil:** FAMU/FSU has an outstanding engineering school and we are just beginning to establish a relationship with this school to recruit engineering students. This is part of an overall strategy in building a relationship with Florida A&M University. It is hoped that the relationship that is built with the student each year will increase the chances of Mobil hiring that student when he/she graduates.



## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

**Organization:** Florida A&M University  
**Address:** Foote-Hilyer Building  
 Tallahassee, Florida  
**Zip Code:** 32307  
**Organizational Contact:** Dr. Fredrick S. Humphries  
**Program/Department:** Minority Introduction of Engineering (MITE)  
 Pre-College Program

**Date:** June 15, 1993  
**Budget Year:** 1993  
**Amount:** 6,000

**Recommending Mobil Unit (Co., Div. & Dept.):** MRDC ENGINEERING 501(c)(3) attached ☒ **X**  
**Mobil Employee Coordinating Grant:** D. J. Harrison, Mgr., PED (If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1991 - \$ 4,250 (Life-Gets Better-Scholarship)	NASA	
1991 - \$ 5,000 (Program Publication)	Kodak	
1992 - \$15,000	Boeing	
1993 - \$10,000	Texaco	
		Unit Code:
		Cat. Code:

**JUSTIFICATION:**

**Recommended Grant:** \$6,000 to Florida A&M University to support thirty weeks of high school students' attendance in FAMU's Minority Introduction to Engineering (MITE) pre-college program. The MITE program is a rigorous two-week campus-based summer workshop targeted for tenth, eleventh and twelfth grade high school students with the purpose of supporting and furthering the students' preparation and interest in pursuing college engineering studies.

**Purpose of the Grant:** Mobil is striving to increase its representation of Blacks and Hispanics in engineering. The FAMU College of Engineering offers majors in chemical, mechanical, electrical, civil and industrial engineering. FAMU's enrollment in engineering has increased over 50% since 1987 and is projected to increase further by another 50% by the year 2000. Of the 1,624 students currently enrolled in the engineering program, 631 are Black and 79 are Hispanic. FAMU provides a significant pool of minority candidates and we are striving to further expand this pool by encouraging high school students to pursue college engineering studies.

**Effectiveness:** There are limited sources of minority engineering candidates. FAMU, a historically black school, with its combined engineering school with Florida State University, provides a large pool of minority students. We see an opportunity for these numbers to increase by encouraging outstanding high school students to pursue studies in engineering.

**Reason for Increase/Decrease:** This grant was decreased to provide funds for minority programs of other schools that are in close proximity to the Mobil Technical Center.

**Benefit to Mobil:** FAMU has an outstanding engineering school and we are just beginning to establish a relationship with this school to support their programs to expand minority enrollment. In summer, 1991, REEA hired three and M&R hired two FAMU engineering students who were all invited to return to work for Mobil.

## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: Lehigh University  
 Address: Bethlehem, PA  
 Zip Code: 18015

Date: June 15, 1993  
 Budget Year: 1994  
 Amount: 7,000

Organizational Contact: Dr. Dennis Hess  
 Chairman, Chemical Engineering Department  
 Program/Department: College of Engineering & Physical Sciences  
 Chemical Engineering Department

Recommending Mobil Unit (Co., Div. & Dept.): MRDC ENGINEERING 501(c)(3) attached  
 Mobil Employee Coordinating Grant: D. J. Harrison, Mgr., PED (If New Organization)

Previous Grants by Mobil		Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1978-\$2,000	1986-\$ 7,000	Air Products	
1979-\$2,000	1987-\$ 5,000	EI DuPont	
1980-\$3,000	1988-\$ 5,000	Exxon	
1981-\$3,000	1989-\$10,000	Shell	
1982-\$4,000	1990-\$10,000		
1983-\$3,000	1991-\$10,000		
1984-\$5,000	1992-\$10,000		Unit Code:
1985-\$5,000	1993-\$10,000		Cat. Code:

## JUSTIFICATION:

Lehigh is a highly respected, well-established, private university with a strong program in engineering and the sciences. Current trends reflect that entering engineering students are from the top one-fifth of their secondary school class. Lehigh is a source of good bachelor and advanced degree graduates for Engineering and Research close to the Mobil Technical Center in Princeton. MRDC has been successful in recruiting from Lehigh and we intend to continue this activity in the future.

Lehigh is scheduled to graduate 30 BS Chemical Engineers in 1994.

A portion of this grant will be used to support the undergraduate Chemical Engineering program through supporting development and operation of the unit operations lab. Other funds from this grant will be used to support both undergraduate and post graduate research programs. Areas of ongoing research include: catalysis, separation processes, fluid dynamics, environmental, fluidization, and polymers.

Lehigh actively conducts research projects on a contract basis for government agencies and industry, including at times MRDC. Dr. Hess desires to continue the joint research activities with industry in this respect.

We recommend a grant of \$7,000 to the Chemical Engineering Department, College of Engineering and Physical Sciences, Lehigh University in 1994. This grant was reduced from \$10,000 to provide \$3,000 for a new program for female engineers - Women in Science and Engineering (WISE).



## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: Lehigh University  
 Address: Bethlehem, PA  
 Zip Code: 18015  
 Organizational Contact: Dr. Sunder Advani  
 Program/Department: Dean of Engineering & Science  
 Women in Science & Engineering Program  
 College of Engineering & Physical Sciences

Date: June 15, 1993Budget Year: 1994Amount: 3,000

Recommending Mobil Unit (Co., Div. & Dept.): MRDC ENGINEERING 501(c)(3) attached ☐  
 Mobil Employee Coordinating Grant: D. J. Harrison, Mgr., PED (If New Organization) ☐

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
NONE	Air Products EI DuPont Exxon Shell	
		Unit Code: _____
		Cat. Code: _____

## JUSTIFICATION:

Lehigh is a highly respected, well-established, private university with a strong program in engineering and the sciences. Current trends reflect that entering engineering students are from the top one-fifth of their secondary school class. Lehigh is a source of good bachelor and advanced degree graduates for Engineering and Research close to the Mobil Technical Center in Princeton. MRDC has been successful in recruiting from Lehigh and we intend to continue this activity in the future.

The funds from this grant will be utilized to help support the **Women in Science and Engineering Program (WISE)** at the University. The purpose of this program is to offer an opportunity to expose 7th and 8th grade girls to careers in Engineering and Science with the goal of inspiring some to pursue these fields in college. This is accomplished through a one day seminar at the University. In 1993, the seminar was attended by 100 girls (110 from each of 10 local schools); plans for 1994 call for doubling the size of the program (to two days) if funds are available.

By supporting this program, Mobil has the opportunity to favorably influence the pool of future engineers. Lehigh has indicated that a grant of this size will have a significant positive impact on this program and will earn us name association with the program.

We recommend a grant of \$3,000 to the College of Engineering and Physical Sciences, Lehigh University in 1994.

## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: Lehigh University  
 Address: Dept. of Materials Sciences & Engineering  
 Zip Code: Whitaker Lab  
 Organizational Contact: Bethlehem, Pennsylvania  
 Program/Department: C. J. Polk

Date: May 1993  
 Budget Year: 1994  
 Amount: \$ 9,500

Recommending Mobil Unit (Co., Div. & Dept.): MRDC ENGINEERING 501(c)(3) attached ☐  
 Mobil Employee Coordinating Grant: C. J. Polk (If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1989 - \$3000	Chevron \$4000	
1990 - \$5000	Alcoa \$1000	
1991 - \$5000	Amax \$2500	
1992 - \$8000	AluSwiss \$5000	
1993 - \$9500		
		Unit Code:
		Cat. Code:

## JUSTIFICATION:

The Lehigh Department of Materials Sciences and Engineering has an excellent curriculum that is well recognized in our industry for the quality of student it produces. Lehigh Materials engineers have performed very well on the engineering staffs of Chevron, Exxon and Amoco, as well as Mobil.

Our MRDC Materials Engineering Section has had excellent experience with Lehigh students, and we recently hired a PhD as a fracture mechanics specialist in our Failure Analysis Group.

The quality of Lehigh Materials Engineering graduates is directly related to the comprehensive curriculum and rigorous requirements set by the Department. Professor David Williams and his staff are continuing to develop the Department and its facilities. Recently, in recognition of the continuing decrease in engineering student enrollment, Professor Richard Hertzberg of the Department developed an "outreach program" to train high school and grade school teachers on methods to interest students in Materials Science and Engineering. Due to severe shortages of Materials engineers predicted by the end of the decade, it is in Mobil's best interest to provide its support to this program and to assist Professor Hertzberg in improving his facilities.

In view of the above, the Mobil Foundation is hereby requested to provide a \$ 9,500 grant to the Department of Materials Sciences and Engineering for 1994. The Department is currently attempting to significantly update its undergraduate facilities and would certainly benefit by the \$6,500 for equipment modernization. The intention would be to allocate the funds as follows:

\$6,500 for undergraduate equipment modernization  
 \$3,000 for the "Outreach Education" Program

These funds would be made as a grant directly to the Department of Materials Science and Engineering.

## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: Manhattan College  
 Address: Riverdale, NY  
 Zip Code: 10471  
 Organizational Contact: Brother C. T. Burris  
 Program/Department: Design-Oriented MS Degree Program  
 Chemical Engineering Department

Date: June 15, 1993  
 Budget Year: 1994  
 Amount: 5,000

Recommending Mobil Unit (Co., Div. & Dept.): MRDC ENGINEERING 501(c)(3) attached ☐  
 Mobil Employee Coordinating Grant: D. J. Harrison, Manager PED (If New Organization)

Previous Grants by Mobil		Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1973-78 \$ 6,000	1991 \$14,000	Con Edison	
1979-81 \$ 7,000	1992 \$15,000	Exxon	
1982-83 \$ 8,000	1993 \$ 5,000	Pfizer	
1984-85 \$10,000		Air Products	
1987 \$12,000		Akzo	
1988 \$12,000		UOP	
1989 \$13,000		Cyanamid	Unit Code:
1990 \$14,000		Dupont	Cat. Code:

## JUSTIFICATION:

Design-Oriented MS Degree Program in Chemical Engineering

Manhattan College conducts a high quality, design-oriented, chemical engineering masters program. The program's design emphasis makes it particularly attractive to the Engineering Department. We propose a grant of \$5,000 toward the support of the design-oriented MS degree fellowship program.

The Engineering Department participated in a graduate and undergraduate steering committee which helps assure that Manhattan's chemical engineering programs are reviewed, evaluated and changed to meet the future needs of industry. We believe Manhattan provides excellent chemical engineering graduates and, through our good relationship, their top candidates have been attracted to Mobil.

On-going research projects relate to: Deep Water Riser Dynamics, Dynamics of Deep Water Mooring Systems, Dynamic Positioning Reliability, Risk Analysis of Offshore Platforms. All of these topics are of interest to Mobil, and the results of the Consortium Research, including any software developed, are available to Consortium contributors. ELF Aquitaine provides a research associate at their expense, in addition to their \$15,000 grant, as an indication of their perception of the significance of the work of the consortium. This \$5,000 grant will help assure the availability of advanced degreed professionals to the offshore industry and stimulate advanced research in the offshore area. It is an important undertaking to insure a continuous source of marine engineers for our Offshore E&P and Marine Transportation needs. The annual contribution requested by the Consortium is \$15,000 (as noted by the contribution levels of the other supporting organizations) however, reduced levels of contributions would also be welcomed. We are recommending a continued participation level of \$5,000 for Budget Year 1994.

## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: New Jersey Institute of Technology  
 Address: Newark, New Jersey  
 Zip Code: 07102  
 Organizational Contact: Judy Goss Boyd

Date: June 15, 1993  
 Budget Year: 1994  
 Amount: 5,000

Assistant Vice President for University Advancement  
 Program/Department: NJIT Foundation - General

Recommending Mobil Unit (Co., Div. & Dept.): MRDC ENGINEERING 501(c)(3) attached  
 Mobil Employee Coordinating Grant: D. J. Harrison, Manager PED (If New Organization)

Previous Grants by Mobil		Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1980-82	\$3,500	1992 \$3,000	Allied Signal
1983-85	\$3,000	1993 \$3,500	American Cyanamid
1986	\$2,500		AT&T Foundation
1987	\$2,500		Digital Corp.
1988	\$2,500		DuPont
1989	\$3,000		Exxon Foundation
1990	\$3,000		
1991	\$3,000		Unit Code:
			Cat. Code:

## JUSTIFICATION:

New Jersey Institute of Technology is the largest technological university in the metropolitan area, enrolling nearly 8,000 degree students annually, and serving more than 6,000 in certificate, continuing education, and pre-college programs. It ranks as a major source of engineering graduates. Modest tuition costs make college accessible to Black and Hispanic students who otherwise could not afford an engineering education.

The graduate program and NJIT has expanded significantly with enrollment at more than 1,700. Extension programs at the graduate level are provided at four off-campus locations in North, Central and South Jersey. In fact, the Institute will offer MS programs in ChE and Environmental Engineering to be taught at the Mobil Princeton location, beginning in the Fall of 1993.

NJIT continues to increase minority enrollment. The National Council for Minorities Engineering (NACME) reports that in 1988 NJIT ranked No. 10 for all minority engineering graduates out of 284 schools with engineering curriculums. In 1987, NJIT ranked No. 11.

The Educational Opportunity Program provides access to Engineering careers to educationally and economically disadvantaged students. More than 350 students who do not meet regular admission standards are enrolled at NJIT through this program. A high success rate among this largely minority group is a major factor in the high graduation rate of minority students at NJIT.

Mobil's contribution to NJIT is in the form of an unrestricted grant administered by the Foundation at NJIT, charged with developing and administering private support. The Foundation oversees the activities of the Center of Pre-College programs in addition to other academic and research programs. We propose that a grant of \$5,000 for 1994 which is an increase of \$1,500 based on review with NJIT staff for current program objectives.

## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: New Jersey Institute of Technology  
 Address: Newark, New Jersey  
 Zip Code: 07102

Date: June 15, 1993  
 Budget Year: 1994  
 Amount: 4,500

Organizational Contact: Judy Goss Boyd  
 Assistant Vice President for University Advancement  
 Program/Department: Center of Pre-College Programs  
 c/o the Foundation of NJIT

Recommending Mobil Unit (Co., Div. & Dept.): MRDC ENGINEERING 501(c)(3) attached ☐  
 Mobil Employee Coordinating Grant: D. J. Harrison, Manager PED (If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1986 - \$5,000	Exxon Educ. Fund	
1987 - \$4,500	New Jersey Bell	
1988 - \$5,500	PSE&G	
1989 - \$3,000	Dow Chemical	
1990 - \$3,000	Nat'l Starch &	
1991 - \$3,000	Chemical	
1992 - \$3,000		Unit Code:
1993 - \$3,000		Cat. Code:

## JUSTIFICATION:

The Center for Pre-College Programs develops and conducts a wide range of programs for students and teachers in the Newark metropolitan area and other urban areas of northern New Jersey. The student programs are designed to raise aspirations, enrich backgrounds in science and mathematics and provide counseling, support and motivation that will encourage preparation for higher education and careers in engineering, science and technology.

In past years, Mobil Foundation supported the Summer Urban Engineering Program designed to introduce minority students to engineering careers. The Center continues to expand its activities with the addition of one or two new programs per year. Twenty-four (24) are now offered including programs such as FEMME (Females in Engineering...Methods, Motivation and Experience), ChIME (Chemical Industry for Minorities in Engineering, SMED (Science and Mathematics for Disabled Students), and TEAMS (Tests of Engineering Aptitude, Math and Science), in addition to the Summer Urban Engineering Program.

In the ten years since the Center was founded, more than 2,500 students have participated. Results of participant surveys indicated nearly 100% of students attend college. Of these, 74% choose college majors in engineering and other science and math-based fields.

This grant is being increased versus 1993. We would like to increase our support of their minority programs. Under our current environment of limited recruiting we want to direct assistance to programs that attract minority high school students into engineering.

Support for the Pre-College Programs Center is recommended for 1994 in the form of an unrestricted grant to further the goals and programs offered by the Center.



## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: Princeton University  
 Address: Department of Engineering  
 Princeton, NJ  
 Zip Code: 08540  
 Organizational Contact: Professor Christodolos A. Floudas  
 Program/Department: Computer-Aided Systems Laboratory

Date: June 15, 1993

Budget Year: 1994

Amount: 5,200

Recommending Mobil Unit (Co., Div. & Dept.): MRDC ENGINEERING 501(c)(3) attached ☒  
 Mobil Employee Coordinating Grant: D. J. Harrison, Mgr., PED (If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1991 - \$7,500	Amoco	
1992 - \$7,500	Shell Oil	
1993 - \$4,200	Tennessee Eastman	
	NSF - Presidential Young Investigator	
		Unit Code:
		Cat. Code:

## JUSTIFICATION:

The Department of Chemical engineering at Princeton has established the Computer-Aided systems Laboratory (CASL) for research in the area of applied mathematical programming of process plants. The Computer-Aided Systems Laboratory consists of a large cluster of state-of-the-art workstation computers that is solely dedicated to the work of the group. The work and publications of this laboratory is highly recognized in academics and industry.

Support of the CASL at Princeton would be of benefit to Mobil. The research of the laboratory focuses on application of algorithmic approaches for optimal design, operation and control of chemical process plants and refineries. Some of the current areas of research include:

- Optimal complex distillation design, retrofit and operation.
- Optimal heat exchanger network synthesis and retrofit.
- Optimal reactor network synthesis.
- Utility systems synthesis and optimization.
- Integrated process and control system synthesis.
- Algorithms for globally optimal solutions of large-scale monlinear programming problems and discrete-nonlinear program problems.

Mobil's growing activity in the areas of equation-based optimization methods can benefit from the techniques and ideas being developed at the CASL. Princeton University is one of Mobil's contact schools for engineering. Mobil has hired a number of Princeton graduates in the past at both the B.S. and Ph.D. level. Their influence and work has been a valuable asset to Mobil Research and Engineering. It is important that Mobil continue to foster relationships with the Chemical Engineering Department of Princeton as a whole, as well as aid in the development of new technologies through support of the Computer-Aided System Laboratory.

The 1993 grant was reduced by 3,300. We have a significant interest in their research in computer-aided systems, therefore, a grant of \$ 5,200 in 1994 (an increase of \$1,000 versus 1993) for a graduate research fellowship by the Mobil Foundation would strongly support our efforts. Any financial support by Mobil is matched by the primary investigator's Presidential Young Investigator Award through the National Science Foundation.



**MOBIL FOUNDATION, INC.**

**Grant Recommendation:**

**Date:** 06/2/93

**Budget Year:** 1994

**Amount:** \$5,000

**Organization:** South Dakota School of Mines & Technology  
**Address:** Rapid City, South Dakota  
**Zip Code:** 57701  
**Organizational Contact:** Professor Venkataswamy Ramakrishanan  
**Program/Department:** Graduate Program in Concrete Materials  
Department of Civil Engineering

**Recommending Mobil Unit (Co., Div. & Dept.):** MRDC/DEPE

501(c)(3) attached  
(if new organization) ☐

**Mobil Employee Coordinating Grant:** Dr. George C. Hoff

<b>Previous Grants by Mobil</b>  1993: \$5,000	<b>Grants by Other Corporations:</b>  N/A	<b>DO NOT WRITE IN THIS BLOCK For Foundation Use Only:</b>
		<b>Unit Code:</b>
		<b>Cat. Code:</b>

**JUSTIFICATION:**

South Dakota School of Mines and Technology is a well established university in the field of engineering. It has a strong program in concrete materials in both its undergraduate and graduate schools. It is one of the few schools that offers this type of program with a focus on the energy industry. Many of the concrete technologists in the offshore concrete scenario of the North Sea oil and gas industry had some of their training at this school.

During the last ten years, changes in the concrete materials field have pushed technology to where concrete strengths of 10,000 to 15,000 psi can now be produced. This is three to six times what used to be expected from concrete. Associated with those strength increases are changes in the other properties of concrete which are essential to design. Studies of these changes and their influence on both structural and serviceability requirements are necessary to successfully implement these advances in technology.

We recommend a grant of \$5,000 to the graduate program in the field of concrete materials research under the auspices of the Civil Engineering Department. This grant will help insure the availability of advanced degree professionals with concrete knowledge in the energy industry.

**MOBIL FOUNDATION, INC.****GRANT RECOMMENDATION**

**Organization:** Washington University School of Engineering  
**Address:** 1 Brookings Drive, St. Louis, MO  
**Zip Code:** 63130  
**Organizational Contact:** Professor Kevin Z. Truman  
**Program/Department:** Graduate Program in Structural Engineering  
Department of Civil Engineering

**Date:** 6/1/93  
**Budget Year:** 1994  
**Amount:** \$ 5,000

**Recommending Mobil Unit (Co., Div. & Dept.):** MRDC/ENG/DEPE  
**Mobil Employee Coordinating Grant:** Dr. David J. Petruska

501(c)(3) attached ☐  
(If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
N/A	N/A	
		Unit Code:
		Cat. Code:

**JUSTIFICATION:**

Washington University is a well established, private university with an excellent academic reputation. The Sever Institute of Engineering and Applied Sciences is a small engineering school with an international reputation for graduate programs, attracting students from all over the world, particularly in the area of structural engineering.

It has a strong program in concrete structures and dynamics on the graduate level. Under the graduate program, it has been actively examining thermal stresses and constitutive material properties for mass concrete structures during construction for marine application for over seven years of which Dr. David Petruska was involved in during the beginning studies. More recently, the effects of earthquake loading has been investigated for mass concrete structures in a marine environment. This type of research is important to the industry since it can reduce construction cost by maximizing concrete placement lift heights while controlling thermal cracking and by gaining a better understanding of the parameters that affect a mass concrete structure during a seismic event.

We recommend a grant of \$5,000 to the graduate program in the field of concrete structures under the auspices of the Civil Engineering Department. The grant will help assure the availability of advanced degreed professionals for the industry and stimulate advanced research in concrete for marine applications.

## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: Worcester Polytechnic Institute  
Address: Worcester, MA  
Zip Code: 01609  
Organizational Contact: Dr. Al Sacco  
Program/Department: Chemical Engineering Department

Date: June 15, 1993  
Budget Year: 1994  
Amount: 5,000

Recommending Mobil Unit (Co., Div. & Dept.): MRDC ENGINEERING 501(c)(3) attached ☐  
Mobil Employee Coordinating Grant: D. J. Harrison, Mgr., PED (If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1988 - \$ 4,000	Exxon	
1989 - \$10,000	DuPont	
1990 - \$10,000	Proctor & Gamble	
1991 - \$10,000	Cabot Corp.	
1992 - \$ 5,000		
1993 - \$ 5,000		
		Unit Code: _____
		Cat. Code: _____

## JUSTIFICATION:

Worcester Polytechnic Institute has displayed dynamic growth while maintaining quality and improving the technical excellence of its educational programs. The WPI "Two Towers" tradition -- learning and practice -- is synonymous with the quality education industry expects for its professionals. WPI's unique undergraduate program requires successful completion of both a humanities and a technical project to receive a BS degree. As a result, WPI has become recognized for engineering educational leadership while providing a rounded education to each of its graduates.

The Department of Chemical Engineering, which has excelled in undergraduate education and research, has a tremendous need for new advanced analytical equipment. The specific item of greatest need is a Powder X-ray Diffraction Unit. The Department has active programs in all aspects of zeolite science and technology, catalysts and inorganic materials research.

Many undergraduate Major Qualifying Projects (MQP) are associated with these research activities. Furthermore, both undergraduate and graduate courses are offered on x-ray diffraction every year. A modern XRD unit would be useful and essential to conduct these courses.

Additional equipment being requested includes atomic absorption, Raman, UV, and IR Spectrometers, chromatographs, rheometer, and associated computer hardware.

The Chemical Engineering graduates for 1992 are 28. REEA has recruited successfully graduates as well as summer interns.

We recommend a grant of \$5,000 to continue Mobil support for laboratory equipment in 1992.

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
 \*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
 PRE-BUDGET UNIT REPORT AS OF 04/28/93

OPC UNIT CODE-31200  
 EDUCATION

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00992	Franklin Pierce Law Center Corporation				
P00599	PTC Research Foundation-General support		3,000	3,000	1,000
TOTAL EDUCATION			3,000	3,000	1,000
TOTAL 31200			3,000	3,000	1,000

ENTER BELOW ANY NEW PROPOSALS YOU WOULD LIKE TO SPONSOR:

UNIT NAME	UNIT CODE	INSTITUTION NAME	PROPOSAL NAME	AMOUNT

APPROVED

DATE

NOTE: \*\* THIS PROPOSAL WAS RECOMMENDED IN A YEAR PRIOR TO 1992 Alexander J. McKillop

7/6/93

MOBIL FOUNDATION, INC.GRANT RECOMMENDATION

ORGANIZATION: The PTC Research Foundation  
ADDRESS: Franklin Pierce Law Center (General Support)  
ZIP CODE: 2 White Street, Concord, New Hampshire 033301  
ORGANIZATIONAL CONTACT: Mr. Robert Shaw  
PROGRAM/DEPARTMENT: Franklin Pierce Law Center

DATE: 6/24/93  
BUDGET YEAR: 1994  
AMOUNT: \$1,000.00

Mobil Oil Corporation

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): Ofc. Patent Counsel 501(c)(3) ATTACHED

MOBIL EMPLOYEE COORDINATING GRANT: A. J. McKillop

(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL		GRANTS BY OTHER CORPORATIONS		DO NOT WRITE IN BLOCK For Foundation only:
1980 - \$2,000	1987 - \$2,125	BP	\$ 500	
1981 - \$2,000	1988 - \$2,125	Dow Chemical	\$1,000	
1982 - \$2,000	1989 - \$2,125	Exxon	\$ 400	
1983 - \$2,000	1990 - \$2,125	Pfizer	\$1,000	
1984 - \$2,500	1991 - \$3,000	PPG Foundation	\$2,000	
1985 - \$2,500	1992 - \$3,000	Shell	\$1,000	UNIT CODE:
1986 - \$2,500	1993 - \$1,000	Union Carbide	\$ 500	CAT. CODE:

JUSTIFICATION:

The PTC Research Foundation is established at the Franklin Pierce Law Center as a continuing foundation for research and education relating to industrial and intellectual property, including patents, trademarks, copyrights and scientific and technical information.

The Foundation fosters research, education, training, instruction, knowledge and publication in the fields enumerated above, the faculty and students of the Law Center participating in the Foundation's programs as part of the Center's practical training. In addition, authorities in these fields will contribute as Research Associates or Consultants of the Foundation. The Advisory Council, comprised of leaders in the industry, law and the professions who are concerned with innovation, will work with the Dean of the Law Center and the Director of the Foundation.

The business community and the concerned public must have truly objective information about the relationship between the United States Patent, Trademark and Copyright systems and the antitrust laws, the tax laws, and other laws, and contemporary court and administrative decisions and policies which affect trade practices, the arts and the innovative process, as well as the posture of American Industry in domestic and international competition.

The Mobil grant has helped the Institute's aim in providing objective information about the functioning of the industrial intellectual property laws, including the patent, trademark and copyright laws. In the past the Institute has provided worthwhile information on this topic and I believe our support is warranted.

The proposed contribution of \$1,000.00 is recommended.

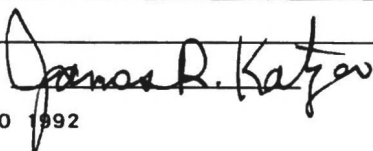
MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
\*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
PRE-BUDGET UNIT REPORT AS OF 04/28/93R&E UNIT CODE-31600  
EDUCATION

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00002 P13068	Princeton University Center for Energy & Environmental Studies-Socolow		25,000	21,750	-0-
TOTAL EDUCATION			25,000	21,750	
TOTAL 31600			25,000	21,750	-0-

ENTER BELOW ANY NEW PROPOSALS YOU WOULD LIKE TO SPONSOR:

UNIT NAME	UNIT CODE	INSTITUTION NAME	PROPOSAL NAME	AMOUNT
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

APPROVED



DATE

7-15-93

NOTE: \*\* THIS PROPOSAL WAS RECOMMENDED IN A YEAR PRIOR TO 1992

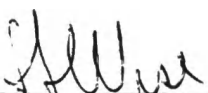
SUMMARY

RESEARCH DEPARTMENT

1994 MOBIL FOUNDATION GRANT RECOMMENDATIONS

	<u>Proposed 1994</u>
ART/CULTURE	\$ -0-
CIVIC	-0-
EDUCATION	654,000
HEALTH	-0-
HOSPITAL	<u>-0-</u>
TOTAL	\$654,000

Approved:

  
\_\_\_\_\_  
J. J. Wise

  
\_\_\_\_\_  
Date



**NEW PROPOSALS  
RESEARCH DEPARTMENT  
MOBIL FOUNDATION 1994 GRANT RECOMMENDATIONS**

<u>UNIT</u>	<u>INT / PROP NUMBER</u>		<u>1994 PROPOSED</u>
	0171	<u>Chicago - University of</u>	
MEPTEC	NEW	Geology Dept. - Paleogeographic Stud.	15,000
	0191	<u>Delaware - University of*</u>	
CRL/PRL	NEW	Reaction Engineering for the Environment Lab.	50,000
	0253	<u>Louisiana State University</u>	
MEPTEC	NEW	Coastal Studies Institute	15,000
	0315	<u>Oklahoma. University of</u>	
MEPTEC	NEW	School of Petroleum and Geological Engineering	11,000
	0441	<u>Texas - University of (Arlington)</u>	
MEPTEC	NEW	Geology Dept. - Dr. Wickham	10,000

\* Focus School

RESEARCH DEPARTMENT  
MOBIL FOUNDATION 1994 GRANT RECOMMENDATIONS

UNIT	INT/PROP NUMBER	ART/CULTURE	1992 Actual	1993 Approved	1994 Proposed	1993 Approved Budget Mobil Foundation Grants Specified Dept.	Total to Univ./Org.
	8206	<u>New Jersey Science Technology Center</u>					
HQ	4588	Capital Campaign	\$60,000*	-0-	-0-	-0-	-0-
	00002	<u>Princeton University</u>					
HQ	14344	Art Museum	12,000	-0-	-0-	-0-	155,950
		Sub-Total (Art/Culture)	\$72,000	-0-	-0-		
		<u>AID TO EDUCATION</u>					
	0164	<u>Bucknell University</u>					
RSD	1669	Chemical Eng. Dept.- Curriculum Enh.	\$6,000	\$5,000	\$5,000		
PROD	1670	Chemical Eng. Dept.- Program Sup.	8,000	9,000	9,000	19,000	
RSD	14348	Scholarship of Discovery-Sci. & Eng.	12,000	-0-	-0-	-0-	19,000
	0165	<u>California Institute of Technology</u>					
MEPTEC	9153	Chem. Eng. Dept.-Gen. Support	10,000	10,000	-0-		
PROC	1671	Chem. Eng.- Research Programs	10,000	-0-	-0-	10,000	17,000

\*The \$60,000 includes \$30,000 approved for 1993 but pre-paid in 1992.

RESEARCH DEPARTMENT  
MOBIL FOUNDATION 1994 GRANT RECOMMENDATIONS

UNIT	INT/PROP NUMBER	AID TO EDUCATION	1992 Actual	1993 Approved	1994 Proposed	1993 Approved Budget Mobil Foundation Grants Specified Dept.	Total to Univ./Org.
	1561	<u>California, Univ. of (San Diego, CA)</u>					
CRL	12753	Chemistry Dept-Prof. Tilley-res.	3,000	-0-	-0-	-0-	-0-
	00394	<u>California, Univ. of (Santa Barbara, CA)</u>					
CRL	15602	Chemistry Dept. - Prof. Stucky-res.	-0-	5,000	5,000	<u>5,000</u>	<u>5,000</u>
	171	<u>Chicago - University of</u>					
CRL	8707	Geophysical Sciences/Dept.Theoretical	10,000	-0-	-0-	-0-	
MEPTEC	NEW	Geology Dept. - Paleogeographic Stud.	-0-	-0-	15,000	-0-	-0-
	0396	<u>City University of New York</u>					
PROC	0225	Chemical Eng.-Reaction Engineering	10,000	15,000*	15,000	<u>15,000</u>	<u>15,000</u>
	00181	<u>Colorado School of Mines</u>					
MEPTEC	8739	G & G Eng.-Prof. Slatt-res.	10,000	11,000	15,000		
MEPTEC	12712	G & G Eng.-Dr. Cross-res.	10,000	11,000	-0-	<u>22,000</u>	
MEPTEC	12713	Geophy. Dept-Center for Well Logging	15,000	-0-	-0-		
MEPTEC	00235	Geophysics Dept. - Fellowship	8,000	8,000	15,000	<u>13,000</u>	
MEPTEC	01220	Pet. Eng. Dept.-Drill Training Course	6,000	3,000	3,000	<u>13,000</u>	<u>114,000</u>
	00397	<u>Columbia University in the City of NY</u>					
PROC	15463	Chem. Eng. & Applied Chemistry Dept.	-0-	-0- *	-0-	-0-	<u>36,500</u>

\*\$10,000 transferred from Columbia Univ. to City Univ. (+\$5,000) and Drexel Univ. (+\$5,000).

RESEARCH DEPARTMENT  
MOBIL FOUNDATION 1994 GRANT RECOMMENDATIONS

UNIT	INT/PROP NUMBER	AID TO EDUCATION	1992 Actual	1993 Approved	1994 Proposed	1993 Approved Budget Mobil Foundation Grants Specified Dept.	Total to Univ./Org.
	0668	<u>Dallas Regional Science Fair</u>					
MEPTEC	0060	General Support	1,000	1,000	1,000	1,000	<u>1,000</u>
	0191	<u>Delaware - University of</u>					
CRL	0253	Cent. for Cata. Sci.-Prof. Klein-res.	35,000	35,000	-0-		
CRL	3274	Cent. for Cata. Sci.-Prof. Foley-res.	5,000	5,000	5,000	<u>40,000</u>	
CRL	1191	Chemical Eng.-general support	10,000	10,000	10,000		
CRL	12752	Chemical Eng. Dept.-Prof. Sandler	5,000	-0-	-0-	<u>10,000</u>	
CRL	NEW	Reaction Eng. for the Environ. Lab.	-0-	-0-	{ 35,000		
PRL*	NEW	Reaction Eng. for the Environ. Lab.	-0-	-0-	{ 15,000	<u>-0-</u>	<u>56,000</u>
	0194	<u>Drexel University</u>					
PROC	0260	Chemical Eng.-general support	10,000	15,000**	10,000	<u>20,000</u>	
PROD	1022	Mechanical Eng. Res. in Combustion	10,000	10,000	10,000	<u>10,000</u>	<u>62,500</u>
	2145	<u>Franklin Institute (The)</u>					
RSD	12902	ACCESS Program	5,000	4,000	4,000	<u>4,000</u>	<u>4,000</u>
	0227	<u>Houston - University of</u>					
CRL	1323	Chemical Eng. - general support	10,000	10,000	10,000		
MEPTEC	1676	Chemical Eng Dept.-res.	10,000	10,000	15,000		
PROC	0302	Chemical Eng.- Catalysis, Kinetics	10,000	10,000	10,000	<u>30,000</u>	<u>35,000</u>

\* Administered by PRL.

\*\*\$10,000 transferred from Columbia Univ. to City Univ. (+\$5,000) and Drexel Univ. (+\$5,000).

RESEARCH DEPARTMENT  
MOBIL FOUNDATION 1994 GRANT RECOMMENDATIONS

UNIT	INT/PROP NUMBER	AID TO EDUCATION	1992 Actual	1993 Approved	1994 Proposed	1993 Approved Budget Mobil Foundation Grants Specified Dept.	Total to Univ./Org.
	0232	<u>Illinois - University of</u>					
CRL	0604	School of Chemical Science	5,000	5,000	5,000	5,000	
MEPTEC	1677	Chemical Eng. Dept.-Prof. Hanratty	-0-	10,000	15,000		
PROC	1678	Chemical Eng. Dept.- general support	10,000	10,000	10,000		
PROC	16189	ChE 2000 Campaign for Chem. Eng.	50,000	10,000	10,000	30,000	<u>35,000</u>
	0233	<u>Indiana University</u>					
MEPTEC	12847	Geology Dept-Dr. Pratt-res.	10,000	11,000	15,000	11,000	<u>11,000</u>
	0250	<u>Lehigh University</u>					
PROD	1680	Chemical Eng. Dept.-Res. Prog.	10,000	10,000	10,000	10,000	
CRL	12751	Chemistry Dept.-Prof. Klier-res.	5,000	5,000	5,000	5,000	<u>39,500</u>
	0253	<u>Louisiana State University</u>					
MEPTEC	NEW	Coastal Studies Institute	-0-	-0-	15,000	-0-	<u>20,500</u>
	0004	<u>Massachusetts Institute of Tech.</u>					
PROC	0350	Chem. Engr. - Res. in Catalysis	15,000	15,000	15,000		
PROC	0745	Chemical Eng. Practice School-gen.	10,000	10,000	-0-	25,000	
MEPTEC	0351	Earth & Planetary Science	10,000	10,000	15,000		
MEPTEC	8736	Earth & Planetary Sci. Dept	10,000	10,000	-0-	20,000	<u>65,000</u>

RESEARCH DEPARTMENT  
MOBIL FOUNDATION 1994 GRANT RECOMMENDATIONS

UNIT	INT/PROP NUMBER	AID TO EDUCATION	1992 Actual	1993 Approved	1994 Proposed	1993 Approved Budget Mobil Foundation Grants Specified Dept.	Total to Univ./Org.
	00270	<u>Michigan Tech. Fund</u>					
MEPTEC	00356	Geophysics Dept.-Gen. Support	4,000	4,000	-0-	<u>4,000</u>	<u>4,000</u>
	00271	<u>Michigan, University of</u>					
MEPTEC	01543	Chem. Eng. Dept.-Prof. Fogler-res.	-0-	10,000	15,000	<u>10,000</u>	<u>24,000</u>
	0274	<u>Minnesota - University of</u>					
MEPTEC	0365	Chem. Eng. & Mat'ls Sci.	15,000	15,000	15,000		
PROC	1524	Chem. Eng. Dept.-Gen. Support	15,000	11,000	11,000	<u>26,000</u>	<u>26,000</u>
	0295	<u>New Mex. Inst. Mining &amp; Tech.</u>					
MEPTEC	0388	Petroleum Recovery Res. Center	8,000	-0-	-0-	<u>-0-</u>	<u>-0-</u>
	0299	<u>Northwestern University</u>					
CRL	1326	Chemistry - Prof. Sachtler-res.	10,000	10,000	-0-		
CRL	5468	Center for Catalysis & Surface Sci	20,000	10,000	25,000	<u>10,000</u>	
CRL	8708	Chemical Engineering - Lab. Fac.	10,000	10,000	10,000	<u>10,000</u>	
PROD	1452	Tech. Inst. Center for Eng.	11,000	-0-	-0-	<u>-0-</u>	
CRL	15462	Chem. Dept. & Catal. Cen.-Prof Marks	-0-	5,000	-0-	<u>15,000</u>	<u>35,000</u>
	0307	<u>Notre Dame - University of</u>					
CRL	1328	Chemical Eng. - Prof. Carberry	10,000	10,000	10,000	<u>10,000</u>	<u>10,000</u>



RESEARCH DEPARTMENT  
MOBIL FOUNDATION 1994 GRANT RECOMMENDATIONS

UNIT	INT/PROP NUMBER	AID TO EDUCATION	1992 Actual	1993 Approved	1994 Proposed	1993 Approved Budget Mobil Foundation Grants Specified Dept.	Total to Univ./Org.
	0313	<u>Ohio State University</u>					
PROD	5710	Prof. Hamrock-res.	10,000	-0-	-0-	-0-	-0-
	0315	<u>Oklahoma, University of</u>					
MEPTEC	NEW	School of Pet. & Geological Eng.	-0-	-0-	11,000	-0-	<u>41,000</u>
	00014	<u>Pennsylvania - University of</u>					
PROC*	0847	Chem. Eng. Dept. - Research	{15,000	{15,000	{15,000		
CRL	0847	Chem. Eng. Dept. - Research	{10,000	{10,000	{10,000	25,000	
HQ	14721	Inst. for Advanced Sci & Tech.	50,000	20,000	20,000	20,000	<u>45,000</u>
	0324	<u>Phila. Regional Intro. for Minorities</u>					
RSD	8729	PRIME - Minority Sci. Resource Center	1,500	-0-	-0-	-0-	-0-
RSD	0616	General Support	-0-	4,500	4,000	6,500	<u>6,500</u>
	0002	<u>Princeton University</u>					
CRL	0437	Chem. Eng. - Res. & Educa.	10,000	10,000	10,000		
PROC	3218	Chem. Eng. Prof. Sundaresan	15,000	15,000	15,000		
HQ	17795	Chem. Eng. Dept. - Prof. Wei	-0-	50,000**	50,000	84,200	
CRL	0438	Chemistry - Res. & Educa.	10,000	5,000	5,000	5,000	
MEPTEC	1681	Geol. & Geophy. Sci. - Dr. Suppe	10,000	-0-	-0-		
MEPTEC	15466	Geol. & Geophy. Sci. Dept.	-0-	10,000	-0-	10,000	<u>155,950</u>

\* Administered by PRL.

\*\*From unallocated funds.

RESEARCH DEPARTMENT  
MOBIL FOUNDATION 1994 GRANT RECOMMENDATIONS

UNIT	INT/PROP NUMBER	AID TO EDUCATION	1992 Actual	1993 Approved	1994 Proposed	1993 Approved Budget Mobil Foundation Grants Specified Dept.	Total to Univ./Org.
	0005	<u>Rensselaer Polytechnic Institute</u>					
PROD	1682	Mechanical Eng.- general support	10,000	-0-	-0-	-0-	
PROD	0888	Chem. Eng. - General Support	-0-	10,000	10,000	14,000	<u>27,000</u>
	00336	<u>Rice University</u>					
MEPTEC	12903	Elect. Eng./Geosciences	10,000	-0-	15,000	-0-	<u>5,000</u>
	00427	<u>Southern Methodist University</u>					
MEPTEC	00465	School of Eng. & App. Sci.-Gen. Sup.	2,000	2,000	-0-	4,500	
MEPTEC	00466	Geolo. Dept. - Prof. Blackwell-res.	-0-	10,000	-0-	10,000	<u>17,500</u>
	06127	<u>Southern Mississippi, Univ. of</u>					
MEPTEC	15465	Poly Sci. Dept.-Prof. McCormick-res.	-0-	10,000	-0-	10,000	<u>10,000</u>
	0441	<u>Texas - Univ. of (Arlington)</u>					
MEPTEC	1726	Math. Dept. - Gen. Support	2,000	2,000	-0-	2,000	
MEPTEC	NEW	Geology Dept. - Dr. Wickham	-0-	-0-	10,000	-0-	<u>7,500</u>
	01683	<u>Texas Learning Tech. Group</u>					
MEPTEC	1443	Physical Science Program	25,000	25,000	25,000	25,000	<u>25,000</u>
	00450	<u>Tuskagee University</u>					
PROD	15464	School of Mech. Eng. & . Archit.	-0-	11,000	11,000	11,000	<u>11,000</u>

RESEARCH DEPARTMENT  
MOBIL FOUNDATION 1994 GRANT RECOMMENDATIONS

UNIT	INT/PROP NUMBER	AID TO EDUCATION	1992 Actual	1993 Approved	1994 Proposed	1993 Approved Budget Mobil Foundation Grants Specified Dept.	Total to Univ./Org.
	0455	<u>Villanova University</u>					
PROD	0551	Chemical Eng.- equipment purch.	12,500	8,000	8,000		
PROD	5471	Chemical Eng.- graduate program	10,000	7,000	7,000	<u>15,000</u>	<u>15,000</u>
	00462	<u>Washington University</u>					
MEPTEC	1334	Chemical Engineering Dept.	5,000	5,000	5,000	<u>5,000</u>	<u>15,000</u>
	0468	<u>Wisconsin, Univ. of (Madison)</u>					
MEPTEC	1013	Metallurgical & Mineral Eng.	10,000	10,000	-0-	<u>10,000</u>	
PROC	5516	Chemical Eng. Dept.- catalysis	10,000	10,000	10,000		
CRL	8709	Chemical Eng. Dept.- Metal Oxide Cat.	5,000	5,000	5,000		
MEPTEC	12750	Chem. Eng. Dept.-Prof. Kim-res.	10,000	-0-	-0-	<u>20,000</u>	<u>30,000</u>
	0476	<u>Wyoming - University of</u>					
MEPTEC	1540	Enh. Oil Recov.-Prof. Ewing	10,000	-0-	-0-	<u>-0-</u>	<u>-0-</u>
		<u>Sub-Total (Aid-To-Education)</u>	<u>\$720,000</u>	<u>\$632,500</u>	<u>\$654,000</u>		
		<u>GRAND TOTAL</u>	<u>\$792,000</u>	<u>\$632,500</u>	<u>\$654,000</u>		

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
\*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
PRE-BUDGET UNIT REPORT AS OF 04/28/93RESEARCH UNIT CODE-31701  
ART/CULTURE

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I08206 P04588	New Jersey Science Technology Center Capital campaign		60,000		-0-
I00002 P14344	Princeton University Art Museum-pictorial photography exhibition		12,000		-0-
TOTAL ART/CULTURE			72,000		-0-

ENTER BELOW ANY NEW PROPOSALS YOU WOULD LIKE TO SPONSOR:

UNIT NAME	UNIT CODE	INSTITUTION NAME	PROPOSAL NAME	AMOUNT
_____	_____	_____	_____	_____
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APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

NOTE: \*\* THIS PROPOSAL WAS RECOMMENDED IN A YEAR PRIOR TO 1992

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
 \*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
 PRE-BUDGET UNIT REPORT AS OF 04/28/93

RESEARCH UNIT CODE-31701  
 EDUCATION

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I01558 P06676	American Chemical Society Campaign for Chemistry	**			
I00014 P14721	Pennsylvania, Trustees of the University of Institute for Advanced Science & Technology		50,000	20,000	20,000 ✓
I12170 P10153	Township of Lawrence/Board of Education Technology Education Business/Education Partnership **				
TOTAL EDUCATION			50,000	20,000	70,000
TOTAL 31701			122,000	20,000	

ENTER BELOW ANY NEW PROPOSALS YOU WOULD LIKE TO SPONSOR:

UNIT NAME	UNIT CODE	INSTITUTION NAME	PROPOSAL NAME	AMOUNT

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

NOTE: \*\* THIS PROPOSAL WAS RECOMMENDED IN A YEAR PRIOR TO 1992

OMITTED:

I00004 P1779	Princeton University Chemical Eng. Dept. - Lab. Reno.	-0-	50,000	50,000
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MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
 \*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
 PRE-BUDGET UNIT REPORT AS OF 04/28/93

RESEARCH UNIT CODE-31702  
 EDUCATION

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00394 P15602	California Santa Barbara Foundation, University Chemistry Dept-Prof. Stucky research			5,000	5,000 ✓
I00390 P00209 P00828 P01673	California, Regents of the University of-Berkeley Chemical Engineering Dept-catalysts research ** National Center for Electron Microscopy-general ** Mechanical Engineering Dept-Dr Theodorou research **				
I01561 P12753	California, University of (San Diego, CA) Chemistry Dept-Prof Tilley research		3,000		-0-
I00171 P08707	Chicago, University of Geophysical Sciences Dept-Theoretical Frameworks		10,000		-0-
I00190 P00253 P01191 P03274 P12752	Delaware, University of Center for Catalytic Science & Technology-Chemical Chemical Engineering Dept-general support Center for Catalytic Science & Technology-Prof Chemical Engineering Dept-Prof Sandler research		35,000 10,000 5,000 5,000	35,000 10,000 5,000	-0- 10,000 ✓ 5,000 ✓ -0-
I00227 P01323	Houston, University of Chemical Engineering Dept-general support		10,000	10,000	10,000 ✓
I00232 P00604	Illinois Foundation, University of School of Chemical Science-solid state NMR studies		5,000	5,000	5,000 ✓
I00250 P12751	Lehigh University Chemistry Dept-Prof Klier research		5,000	5,000	5,000 ✓
I00004 P01453	Massachusetts Institute of Technology Materials Processing Center				
I00299 P01326 P01327 P05468 P08708 P15462	Northwestern University Chemistry Dept-Prof. Sachtler research Chemistry Dept-Prof. Kung research ** Center for Catalysis & Surface Science Chemical Engineering Dept-laboratory facilities Chemistry Dept and Catalysis Center-Prof. Marks		10,000 20,000 10,000	10,000 10,000 5,000	-0- 25,000 ✓ 10,000 ✓ -0-
I00307 P01328	Notre Dame, University of Chemical Engineering Dept-Prof. Carberry research		10,000	10,000	10,000 ✓
I00014 P00848	Pennsylvania, Trustees of the University of Chemical Engineering Dept-faculty additions for **				



MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
 \*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
 PRE-BUDGET UNIT REPORT AS OF 04/28/93

RESEARCH UNIT CODE-31702  
 EDUCATION

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00002	Princeton University				
P00437	Chemical Engineering Dept-Research & educational		10,000	10,000	10,000 ✓
P00438	Chemistry Dept-research & educational activities		10,000	5,000	5,000 ✓
P05470	Mechanical & Aerospace Engineering Dept	**			
I00446	Trenton State College				
P00836	Chemistry Dept-general support	**			
P01525	Baja Car Project	**			
I00468	Wisconsin Foundation, University of				
P05709	Prof. Dahl's metals nucleation research	**		5,000	5,000 ✓
P08709	Chemical Engineering Dept-Metal oxide catalysts		5,000		
TOTAL EDUCATION				140,000	105,000
TOTAL 31702			163,000	140,000	105,000
			163,000		

ENTER BELOW ANY NEW PROPOSALS YOU WOULD LIKE TO SPONSOR:

UNIT NAME	UNIT CODE	INSTITUTION NAME	PROPOSAL NAME	AMOUNT
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APPROVED _____			DATE _____	

NOTE: \*\* THIS PROPOSAL WAS RECOMMENDED IN A YEAR PRIOR TO 1992

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
\*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
PRE-BUDGET UNIT REPORT AS OF 04/28/93RESEARCH UNIT CODE-31703  
ART/CULTURE

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I02145	Franklin Institute				
P01827	Museum to Go & Traveling Science Show	**			

TOTAL ART/CULTURE

ENTER BELOW ANY NEW PROPOSALS YOU WOULD LIKE TO SPONSOR:

UNIT NAME	UNIT CODE	INSTITUTION NAME	PROPOSAL NAME	AMOUNT
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APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

NOTE: \*\* THIS PROPOSAL WAS RECOMMENDED IN A YEAR PRIOR TO 1992

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
\*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
PRE-BUDGET UNIT REPORT AS OF 04/28/93RESEARCH UNIT CODE-31703  
CIVIC

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I09614	Gloucester County Vocational Technical School				
P06270	REACH/Expansion of Day Care Facilities	**			
P06650	Addition to p.6270-REACH/Expansion of Day Care	**			

TOTAL CIVIC

ENTER BELOW ANY NEW PROPOSALS YOU WOULD LIKE TO SPONSOR:

UNIT NAME	UNIT CODE	INSTITUTION NAME	PROPOSAL NAME	AMOUNT
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APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

NOTE: \*\* THIS PROPOSAL WAS RECOMMENDED IN A YEAR PRIOR TO 1992

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
 \*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
 PRE-BUDGET UNIT REPORT AS OF 04/28/93

RESEARCH UNIT CODE-31703  
 EDUCATION

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00164	Bucknell University				
P01669	Chemical Engineering Dept-curriculum enhancement		6,000	5,000	5,000 ✓
P14348	Scholarship of Discovery-science & engineering		12,000		-0-
I00194	Drexel University				
P13065	Drexel Success program	**			
I02145	Franklin Institute				
P12902	ACCESS Program		5,000	4,000	4,000 ✓
I00324	Philadelphia Regional Introduction for Minoritie				
P00616	General support			4,500	4,000 ✓
P05469	PRIME-computer program	**			
P06207	Computer program/equipment purchase	**			
P06648	Addition to p.6207-computer program/equipment	**			
P08729	Minority Scientists Resource Center		1,500		
TOTAL EDUCATION			24,500	13,500	13,000
TOTAL 31703			24,500	13,500	13,000

ENTER BELOW ANY NEW PROPOSALS YOU WOULD LIKE TO SPONSOR:

UNIT NAME	UNIT CODE	INSTITUTION NAME	PROPOSAL NAME	AMOUNT

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

NOTE: \*\* THIS PROPOSAL WAS RECOMMENDED IN A YEAR PRIOR TO 1992

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
 \*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
 PRE-BUDGET UNIT REPORT AS OF 04/28/93

RESEARCH UNIT CODE-31704  
 EDUCATION

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00165 P01671	California Institute of Technology Chemical Engineering Dept-research programs		10,000		-0-
I00396 P00225	City College Fund Chemical Engineering Dept-energy related research		10,000	10,000	15,000 ✓
I00397 P15463	Columbia University in the City of New York, Chemical Engineering & Applied Chemistry Dept-			10,000	-0-
I00194 P00260	Drexel University Chemical Engineering Dept-general support		10,000	10,000	10,000 ✓
I00227 P00302	Houston, University of Chemical Engineering Dept-catalysis, kinetics &		10,000	10,000	10,000 ✓
I00232 P01678 P13064 P16189	Illinois Foundation, University of Chemical Engineering Dept-general support Cancer research-Dr. Visek ChE 2000 Campaign for Chemical Engineering		10,000 50,000	10,000 10,000	10,000 ✓ 10,000 ✓
I00238 P01411	Iowa State University Achievement Foundation Chemistry Dept-general support	**			
I00004 P00350 P00745	Massachusetts Institute of Technology Chemical Engineering Dept-research in catalysis, Chemical Engineering Practice School-general		15,000 10,000	15,000 10,000	15,000 ✓ -0-
I00269 P01570	Michigan State University Chemistry Dept-general support	**			
I00274 P01524	Minnesota Foundation, University of Chemical Engineering Dept-general support		15,000	11,000	11,000 ✓
I00014 P00847	Pennsylvania, Trustees of the University of Chemical Engineering Dept-research		25,000	25,000	25,000 ✓
I00002 P03218	Princeton University Chemical Engineering Dept-Prof Sundaresan research		15,000	15,000	15,000 ✓

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
 \*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
 PRE-BUDGET UNIT REPORT AS OF 04/28/93

RESEARCH UNIT CODE-31704  
 EDUCATION

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00468	Wisconsin Foundation, University of				
P01523	Chemical Engineering Dept-general support	**			
P05516	Chemical Engineering Dept-Catalysis research		10,000	10,000	
	<i>0018337 " " A MINORITY ENG.</i>				
TOTAL EDUCATION			190,000	146,000	181,000
TOTAL 31704			190,000	146,000	181,000

*Handwritten notes: 5,000 / 10,000 - split 5,000 / 5,000. P00516 \$5,000. P18337 \$5,000.*

ENTER BELOW ANY NEW PROPOSALS YOU WOULD LIKE TO SPONSOR:

UNIT NAME	UNIT CODE	INSTITUTION NAME	PROPOSAL NAME	AMOUNT
Res. Unit	31704	Delaware, University of	Reaction Eng. for the Environ.	50,000 ✓
			Lab.	

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

NOTE: \*\* THIS PROPOSAL WAS RECOMMENDED IN A YEAR PRIOR TO 1992



MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
 \*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
 PRE-BUDGET UNIT REPORT AS OF 04/28/93

RESEARCH UNIT CODE-31705  
 EDUCATION

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00164 P01670	Bucknell University Chemical Engineering Dept-program support		8,000	9,000	9,000 ✓
I00188 P01675	Dartmouth College, Trustees of Thayer School of Engineering-general support	**			
I00194 P01022	Drexel University Mechanical Engineering Dept-research in combustion		10,000	10,000	10,000 ✓
I00215 P01451	Georgia Tech Foundation, Inc. School of Mechanical Engineering-Prof Winer-	**			
I00250 P01680	Lehigh University Chemical Engineering Dept-research programs		10,000	10,000	10,000 ✓
I00299 P01452	Northwestern University Technological Institute Center for Engineering		11,000		-0-
I00313 P05710	Ohio State University Development Fund Prof. Hamrock's research & initiating new graduate		10,000		-0-
I00005 P00888 P01682	Rensselaer Polytechnic Institute Chemical Engineering Dept-general support Mechanical Engineering Dept-general support		10,000	10,000	10,000 ✓ -0-
I00450 P15464	Tuskegee University School of Mechanical Engineering & Architecture-			11,000	11,000 ✓

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
\*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
PRE-BUDGET UNIT REPORT AS OF 04/28/93RESEARCH UNIT CODE-31705  
EDUCATION

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00455	Villanova University				
P00551	Chemical Engineering Dept-equipment purchase		12,500	8,000	8,000 ✓
P05471	Chemical Engineering Dept-graduate program		10,000	7,000	7,000 ✓
TOTAL EDUCATION					
			81,500	65,000	65,000
TOTAL 31705			81,500	65,000	65,000

ENTER BELOW ANY NEW PROPOSALS YOU WOULD LIKE TO SPONSOR:

UNIT NAME	UNIT CODE	INSTITUTION NAME	PROPOSAL NAME	AMOUNT
_____	_____	_____	_____	_____
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APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

NOTE: \*\* THIS PROPOSAL WAS RECOMMENDED IN A YEAR PRIOR TO 1992

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
 \*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
 PRE-BUDGET UNIT REPORT AS OF 04/28/93

RESEARCH UNIT CODE-24706- 31707  
 EDUCATION

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00165	California Institute of Technology				
P01527	Chemical Engineering Dept-Dr. Steinfeld research	**			
P06654	Chemical Engineering Department	**			
P09153	Chemical Engineering Dept-general support		10,000	10,000	-0-
I00390	California, Regents of the University of-Berkeley				
P00208	Chemical Engineering Dept-oil recovery research	**			
P01342	Chemistry Dept-Dr Pines NMR research	**			
I13980	Carlsbad Caverns Natural History Association				
P11909	'Ship-on-the-Desert' Research Facility (Pratt Hse)	**			
I00181	Colorado School of Mines Foundation, Inc.				
P08739	Geology & Geological Engineering Dept-research on		10,000	11,000	15,000 ✓
P12712	Geology & Geological Engineering Dept-genetic		10,000	11,000	<del>15,000</del> 15,000
P12713	Geophysics Dept-Center for Well Logging &		15,000		-0-
I00397	Columbia University in the City of New York,				
P01674	Lamont Doherty Geological Observatory-Dr Watts	**			
P09154	Lamont-Doherty Geological Observatory-Dr. Olsen	**			
I00668	Dallas Regional Science Fair				
P00060	General support		1,000	1,000	1,000 ✓
I00188	Dartmouth College, Trustees of				
P01020	Earth Sciences Dept-research in diagenesis	**			
I00227	Houston, University of				
P01676	Chemical Engineering Dept-research		10,000	10,000	15,000 ✓
P05707	Geosciences Dept-seismic migration research	**			
I00232	Illinois Foundation, University of				
P01677	Chemical Engineering Dept-Prof. Hanratty research			10,000	15,000 ✓
P01679	Geology Dept-Dr. Bethke research	**			
P05708	Chemistry Dept-Prof. Lauterbur research	**			
I00233	Indiana University Foundation				
P01544	Chemistry & Geology Dept-general support	**			
P12847	Geology Dept-Dr. Pratt research		10,000	11,000	15,000 ✓
I00253	Louisiana State University Foundation				
P00336	Coastal Studies Institute-general support	**			
I00004	Massachusetts Institute of Technology				
P00351	Earth-Atmospheric-Planetary Sci Dept-General		10,000	10,000	15,000 ✓
P03142	Earth-Atmospheric-Planetary Sci Dept-Dr Burchfiel	**			
P08736	Earth-Atmospheric-Planetary Sci Dept-Research on		10,000	10,000	-0-

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
 \*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
 PRE-BUDGET UNIT REPORT AS OF 04/28/93

RESEARCH UNIT CODE-~~91706~~ 31707  
 EDUCATION

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00271 P01543	Michigan, University of Chemical Engineering Dept-Prof. Fogler research			10,000	15,000 ✓
I00274 P00365 P01542	Minnesota Foundation, University of Chemical Engineering & Materials Science Dept- Chemical Engineering & Materials Science Dept-	**	15,000	15,000	15,000 ✓
I00285 P04580	National Consortium for Graduate Degrees for Fellowships for engineering students	**			
I00295 P00388 P05466	New Mexico Institute of Mining & Technology Petroleum Recovery Research Center-Dr Beckley Petroleum Recovery Research Center-Dr Seright	**	8,000		-0-
I00315 P01195 P01539	Oklahoma Foundation, Inc., University of School of Geology & Geophysics-Dr. Engel research School of Geology & Geophysics-Dr. Philp research	** **			
I00323 P01498	Pennsylvania State University Petroleum Engineering Dept-Prof. Adewumi research	**			
I00002 P01681 P01779 P05151 P15466	Princeton University Geological & Geophysical Sciences Dept-Dr. Suppe Geological & Geophysical Dept-Dr. Suppe research Graduate Engineering Department-graduate studies Geological & Geophysical Sciences Dept-geophysical	 ** **	10,000	10,000	-0- -0-
I00336 P00618 P01104 P12903	Rice University, William Marsh Chemical Engineering Dept-oil recovery processes Mathematical Sciences Dept-general support Electrical Engineering/Geosciences-Prof Gardner	** **	10,000		15,000 ✓
I00427 P00466 P05467	Southern Methodist University Geology Dept-Prof. Blackwell research Geosciences Dept	**		10,000	-0-
I06127 P15465	Southern Mississippi Foundation, University of Polymer Science Dept-Prof. McCormick research			10,000	-0-
I00430 P00844 P01683	Stanford University Petroleum Engineering Dept-Prof. Aziz research Geology Dept-Dr. Graham research	** **			
I00441 P01449	Texas at Arlington, University of Electrical Engineering Dept-Prof MT Manry research	**			

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
 \*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
 PRE-BUDGET UNIT REPORT AS OF 04/28/93

RESEARCH UNIT CODE-~~31706~~ 31707  
 EDUCATION

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00442 P00533	Texas at Austin, University of Petroleum Engineering Dept-Dr. Pope research	**			
I00443 P01011	Texas at Dallas, University of Geoscience Dept-general support	**			
I01560 P01684	Texas Christian University Geology Dept-Dr. Donovan research	**			
I00462 P01334	Washington University Chemical Engineering Dept-Chemical Reaction		5,000	5,000	5,000 ✓
I00468 P01013	Wisconsin Foundation, University of Metallurgical & Mineral Engineering Dept-research		10,000	10,000	-0-
P06653	Chemical Engineering Dept-Program support	**			
P12750	Chemical Engineering Dept-Prof Kim research		10,000		-0-
I00476 P01540	Wyoming Foundation, University of Enhanced Oil Recovery Institute-Prof Ewing resrch		10,000		-0-
TOTAL EDUCATION			164,000	154,000	
TOTAL 31706			164,000	154,000	

ENTER BELOW ANY NEW PROPOSALS YOU WOULD LIKE TO SPONSOR:

UNIT NAME	UNIT CODE	INSTITUTION NAME	PROPOSAL NAME	AMOUNT
_____	_____	_____	_____	_____
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APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

NOTE: \*\* THIS PROPOSAL WAS RECOMMENDED IN A YEAR PRIOR TO 1992

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
 \*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
 PRE-BUDGET UNIT REPORT AS OF 04/28/93

RESEARCH UNIT CODE-31707  
 EDUCATION

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00181	Colorado School of Mines Foundation, Inc.				
P00235	Geophysics Dept-fellowship		8,000	8,000	15,000 ✓
P01220	Petroleum Engineering Dept-drill training courses		6,000	3,000	3,000 ✓
I00270	Michigan Tech Fund				
P00356	Geophysics Dept-general support		4,000	4,000	-0-
I00427	Southern Methodist University				
P00465	School of Engineering & Applied Sciences-general		2,000	2,000	-0-
I00441	Texas at Arlington, University of				
P01726	Mathematics Dept-general support		2,000	2,000	-0-
I01683	Texas Learning Technology Group				
P01443	Physical Science Program		25,000	25,000	25,000 ✓
TOTAL EDUCATION			47,000	44,000	220,000
TOTAL 31707			47,000	44,000	220,000

ENTER BELOW ANY NEW PROPOSALS YOU WOULD LIKE TO SPONSOR:

UNIT NAME	UNIT CODE	INSTITUTION NAME	PROPOSAL NAME	AMOUNT
Res. Unit	31707	Chicago, Univ. of	Geology Dept.	15,000 ✓ 18334
Res. Unit	31707	Louisiana State Univ.	Coastal Studies Institute	15,000 ✓ 18333
Res. Unit	31707	Oklahoma, Univ. of	School of Pet. & Geological Eng.	11,000 ✓ 18332
Res. Unit	31707	Univ. of Texas at Arlington	Geology Dept.	10,000 ✓ 18331

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

NOTE: \*\* THIS PROPOSAL WAS RECOMMENDED IN A YEAR PRIOR TO 1992

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REPORT JAL1

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
PROPOSALS ASSUMED BY CCA (30102)  
FOR UNIT 31701

INST/PROP NUMBER	ORGANIZATION/PROPOSAL NAME	BUD CAT	1992 AMOUNT	1993 AMOUNT	1994 AMOUNT
I01990 P10819	National Academy of Engineering Fund General support	EDUC	15,000	15,000	15,000

*Prepaid*



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REPORT JAL1

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
PROPOSALS ASSUMED BY CCA (30102)  
FOR UNIT 31705

INST/PROP NUMBER	ORGANIZATION/PROPOSAL NAME	BUD CAT	1992 AMOUNT	1993 AMOUNT	1994 AMOUNT
I00456 P01685	Virginia Tech Foundation, Inc. Mechanical Engineering Dept-Tribology programs	EDUC	10,000	10,000	10,000 ✓

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04/28/93  
REPORT JAL1

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
PROPOSALS ASSUMED BY CCA (30102)  
FOR UNIT 31706

INST/PROP NUMBER	ORGANIZATION/PROPOSAL NAME	BUD CAT	1992 AMOUNT	1993 AMOUNT	1994 AMOUNT
I09454 P11748	Carnegie Institution of Washington Isotope Geochemistry Program of Dr. T.C. Hoering	EDUC		10,000	10,000 ✓
I00316 P12901	Old Dominion University Oceanography Dept-Dr. Swift research	EDUC	15,000	15,000	15,000 ✓
TOTAL UNIT 31706			15,000	25,000	25,000

# Mobil Foundation, Inc.

# grant recommendation

**ORGANIZATION:** Carnegie Institute of Washington  
**ADDRESS:** 5251 Broad Brand Road NW Washington, DC  
**ZIP CODE:** 20015  
**ORGANIZATIONAL CONTACT:** Dr. Thomas C. Hoering  
**PROGRAM/DEPARTMENT:** Geophysical Laboratory

**DATE:** 06/03/93  
**BUDGET YEAR:** 1994  
**AMOUNT:** \$10,000.00

**RECOMMENDING MOBIL UNTO (CO.,DIV.&DEPT.):** MRDC-MEPTEC  
**MOBIL EMPLOYEE COORDINATING GRANT:** M. A. Rooney\C. C. Walters

**501 (C) (3) ATTACHED** ☐  
**(IF NEW ORGANIZATION)**

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1991-\$10,000 1992-\$10,000 1993-\$10,000	None	
		UNIT CODE:
		CAT. CODE:

## JUSTIFICATION:

### Recommended Grant

Support in the amount of \$10,000 for 1994 is recommended for the Geophysical Laboratory of the Carnegie Institute of Washington.

### Purpose of Grant

These funds should be applied to the isotope geochemistry program of Dr. Thomas C. Hoering to support research on early diagenetic processes of organic matter in recent sediments.

### Effectiveness

Dr. Hoering is highly regarded in the academic community for his pioneering work in stable isotope geochemistry. His research has focussed on the use of stable isotopes to gain an understanding of geochemical reactions that take place soon after the deposition of organic matter in sediments. The Geophysical Laboratory has recently purchased a new instrument comparable to ours. These funds will enable him to speed development of this new tool. Transfer of the knowledge gained by him to us will enhance our program.

### Benefits to Mobil

The oil industry has seen an explosion in effort to apply Gas Chromatography/Isotope Ratio Mass Spectrometry (GC/IRMS) to gain an understanding of the geochemistry of petroleum systems. Mobil enjoys a slight advantage in this area based on previous research. With the development of new GC/IRMS instrumentation, far more sophisticated data sets will be available. Collaborative research with Dr. Hoering will shorten the time needed to develop and to apply the technology.

# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: National Academy of Engineering Fund

DATE: July 1993

ADDRESS: 2101 Constitution Avenue NW

BUDGET YEAR: 1994

ZIP CODE: Washington, DC 20118

AMOUNT: \$15,000  
(\$75,000 pledge; 5 yrs.; '91-'95)

ORGANIZATIONAL CONTACT:

PROGRAM/DEPARTMENT

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.):

501(C) (3) ATTACHED L

MOBIL EMPLOYEE COORDINATING GRANT:

(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1991 - 15,000 1992 - 15,000 1993 - 15,000		   UNIT CODE: _____ CAT. CODE: _____

### JUSTIFICATION:

This is an ongoing pledge that will enable the Academy to continue to initiate and carry out programs independent of federal government funding and help to ensure that the perspective of the engineering and technological community is brought to bear on major national issues, such as space, transportation, the environment, energy and chemical engineering.

Dick Tucker was a member of the NAEs Energy Agenda Advisory Committee for the 1990's Symposium, and also served on its 25th Anniversary Committee. Mobil's support of the Academy's work will ensure the continued health of the engineering and technological enterprise in the United States.

# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: Old Dominion University

ADDRESS: Norfolk, VA

ZIP CODE: 23529-0276

ORGANIZATIONAL CONTACT: Dr. Donald J.P. Swift

PROGRAM/DEPARTMENT: Department of Oceanography

DATE: 6/3/93

BUDGET YEAR: 1994

AMOUNT: \$15,000.00

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): MRDC - Research - MEPTEC

501 (C) (3) ATTACHED ☐

MOBIL EMPLOYEE COORDINATING GRANT: J. W. Snedden

(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only :
1992 \$ 15,000	ARCO	
1993 \$ 15,000		
		UNIT CODE:
		CAT. CODE:

### JUSTIFICATION:

#### Recommended Grant:

Support in the amount of \$15,000 is recommended for the Department of Oceanography at Old Dominion University.

#### Purpose of Grant:

These funds should be applied to the research of Dr. Donald Swift. This research is directed at developing quantitative models for shelf sedimentation particularly with regard to paleocurrents and continuity of shelf sand beds and sand bodies. Specifically, numerical models of shelf deposits will be compared to ancient exposures in Wyoming, USA. Sequence Stratigraphic modelling is also envisioned as part of his continuing research program.

#### Effectiveness:

Dr. Swift is widely recognized as an expert in marine shelf processes and products, having published numerous papers and edited several books and special publications on both modern and ancient shelves. He has worked in academic, governmental (NOAA), and industrial positions and has cooperative research with other domestic and international scientific concerns. His research blends an understanding of dynamic physical processes with knowledge of ancient rock characteristics.

#### Benefits to Mobil:

Support for Dr. Swift's research would allow direct access to his numerical modelling technology as well as results of detailed measurements from an ancient shelf regime analogous to several Mobil producing fields and exploration fairways. Application to directional analysis (dipmeter/FMS) is clear.

# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: Virginia Polytechnic Institute & State University  
ADDRESS: Blacksburg, Virginia  
ZIP CODE: 24061  
ORGANIZATIONAL CONTACT: Dr. Norman S. Eiss  
PROGRAM/DEPARTMENT: Dept. of Mechanical Engineering

DATE: May 1993  
BUDGET YEAR: 1994  
AMOUNT: \$10,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.):  
MOBIL EMPLOYEE COORDINATING GRANT:

MRDC Research, Prod. R&TS Div.  
C. N. Rowe

501 (C) (3) ATTACHED ☐  
(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL		GRANTS BY OTHER CORPORATIONS		DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1989-93	\$10,000	Ford Motor Co.	\$ 47,000	
		NSF	\$219,000	
				UNIT CODE:
				CAT. CODE:

### JUSTIFICATION:

#### Recommended Grant

We recommend a grant of \$10,000 to the Department of Mechanical Engineering of Virginia Polytechnic Institute and State University.

#### Purpose of Grant

The purpose of the grant is to aid five faculty members and their graduate students in several tribology programs, including classes of additives which polymerize on sliding metal surfaces to afford lubrication.

#### Effectiveness

The tribology program at Virginia Polytechnic Institute and State University is high-caliber on surface temperature measurements, frictional properties of plastics, and in-situ polymerization. Profs. Eiss and Furey are recognized experts.

#### Reason for Increase or Decrease

No change

#### Benefits to Mobil

The functional mechanisms of lubricants and lubricant additives is of keen interest to Mobil. Polymerization of additives on sliding contacting surfaces to form highly effective antiwear and load-carrying films is novel and will aid our development of multifunctional additives.

N140-8  
5/27/93

# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: Bucknell University  
ADDRESS: Lewisburg, PA  
ZIP CODE: 17837  
ORGANIZATIONAL CONTACT: William King  
PROGRAM/DEPARTMENT: Chemical Engineering

DATE: June 1993  
BUDGET YEAR: 1994  
AMOUNT: \$5,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): MRDC, Research, PRL  
MOBIL EMPLOYEE COORDINATING GRANT: H. A. McVeigh

501 (C) (3) ATTACHED ☐  
(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1985 - \$7,000	Exxon	
1986 - 7,000	Westinghouse	
1989 - 6,000	National Cancer Center	
1990 - 6,000	N.B.S.	
1991 - 6,000	Office of Naval Research	
1992 - 6,000		UNIT CODE:
1993 - 5,000		CAT. CODE:

### JUSTIFICATION:

#### Recommended Grant

\$5,000 for the Chemical Engineering Department at Bucknell University.

#### Purpose of Grant:

To allow Bucknell to continue studies of process control and optimization methods, and to develop computer logging, control, and interfacing of chemical engineering unit operations. Key areas of work being carried out at Bucknell of direct interest to Mobil include automation of distillation, liquid-liquid extraction, and flow units. These are of active interest at PRL.

#### Effectiveness

Bucknell is one of the few school having an experimentally oriented process control program for undergraduate and masters degree students. This grant will provide funds to continue to improve this program.

#### Reason for Decrease

Continuation at same level of existing grant.

#### Benefits to Mobil

The research areas to be covered by the grant are of particular interest to Mobil. This research will suggest new procedures and practices which can be further tested at the Paulsboro Research Laboratory and eventually be implemented at our refineries. The hands-on, practical training which these research funds will provide to the predominantly undergraduate students carrying out this research will contribute to the success of the chemical engineers produced by Bucknell.



# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: Bucknell University  
ADDRESS: Lewisburg, PA  
ZIP CODE: 17837  
ORGANIZATIONAL CONTACT: Dr. William King  
PROGRAM/DEPARTMENT: Chemical Engineering Department

DATE: May 1993  
BUDGET YEAR: 1994  
AMOUNT: \$9,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.):  
MOBIL EMPLOYEE COORDINATING GRANT:

MRDC Research, Prod. R&TS Div.  
J. R. Lohuis

501 (C) (3) ATTACHED ☐  
(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL		GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1984-86	\$7,000	Exxon	
1989-91	\$6,000	Westinghouse	
1992	\$8,000	National Cancer Center	
1993	\$9,000	NBS	
			UNIT CODE:
			CAT. CODE:

### JUSTIFICATION:

#### Recommended Grant

We recommend a \$9,000 grant to the Chemical Engineering Department of Bucknell University.

#### Purpose of Grant

This grant will be used to support current faculty and student projects. The department emphasizes a number of areas of interest to Mobil, such as catalysis, reaction kinetics, and reactor modeling. This grant will demonstrate our continued support of these programs.

#### Effectiveness

Bucknell, and particularly the Chemical Engineering Department, are active in bringing new technology into the classroom. The faculty has a varied background, including catalyst, kinetic and reaction modelling, and is now expanding into biochemical engineering. The faculty is widely recognized for their contributions to engineering education, including several recent text books.

#### Reason for Increase or Decrease

No change

#### Benefits to Mobil

Provides an additional means for exchange of information between Bucknell faculty and MRDC staff to help address current research activities.

# Mobil Foundation, Inc.

# grant recommendation

ORGANIZATION: University of California at Santa Barbara  
Department of Chemistry

DATE: 05/93

ADDRESS: Santa Barbara, CA 93106

BUDGET YEAR: 1994

ZIP CODE: 93106

AMOUNT: \$5,000.00

ORGANIZATIONAL CONTACT: Professor Galen D. Stucky  
PROGRAM/DEPARTMENT: Department of Chemistry

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): MRDC/RESEARCH/CRL  
MOBIL EMPLOYEE COORDINATING GRANT: David H. Olson

501(C) (3) ATTACHED ☐  
(IF NEW ORGANIZATION)

## PREVIOUS GRANTS BY MOBIL

1993 - \$5,000

## GRANTS BY OTHER CORPORATIONS

Air Products, 42K

## DO NOT WRITE IN THIS BLOCK

For Foundation Use Only:

UNIT CODE: \_\_\_\_\_  
ICAT. CODE: \_\_\_\_\_

## JUSTIFICATION:

### Recommended Grant

We recommend a grant of \$5,000 to Professor Galen D. Stucky, Department of Chemistry, University of California at Santa Barbara.

### Purpose of Grant

To continue support of Professor Stucky's work on the application of Mobil's new M41S materials in the area of electrooptics. This grant money will support the staffing of the project and be used for general chemical research on these materials.

### Effectiveness

The electrooptical applications of zeolites and other molecular sieves is in its infancy but, if successful, could have substantial impact in the electronics industry. Mobil's new M41S materials represent an entirely new family of materials and has caused considerable interest in this area of research. Mobil holds strong composition of matter patents on these materials but the electrooptics area is outside Mobil's main area of business and interests. Professor Stucky is one of the leading researchers in the electrooptic area. He has cooperated with Mobil in developing broad based patents on the application of M41S materials in the electrooptic area. This grant could spur the development of these other applications of the M41S material.

### Reason for Increase or Decrease

### Benefit to Mobil

As stated above, support of this work could increase the rate of development of M41S materials in areas outside of Mobil's mainstream business. Mobil has benefitted from frequent updates on the research activities of Professor Stucky in this area. It is important to continue this interaction.

INCO-4309A

# Mobil Foundation, Inc.

## grant recommendation

**ORGANIZATION:** University of Chicago - Department of the Geophysical  
**ADDRESS:** 5734 So. Ellis Ave.  
**ZIP CODE:** 60637  
**ORGANIZATIONAL CONTACT:** A.M. Ziegler  
**PROGRAM/DEPARTMENT:** Department of Geology-Paleogeographic Studies

**DATE:** 06/04/93  
**BUDGET YEAR:** 1994  
**AMOUNT:** \$15,000.00

**RECOMMENDING MOBIL UNIT (CO.,DIV.&DEPT.):** MRDC-MEPTEC  
**MOBIL EMPLOYEE COORDINATING GRANT:** T.M. Levy

**501 (C) (3) ATTACHED**  
**(IF NEW ORGANIZATION)**

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1991 - \$10,000	Not available	
		UNIT CODE:
		CAT. CODE:

### JUSTIFICATION:

#### Recommended Grant

It is recommended that a grant in the amount of \$15,000 be given to the Department of Geophysical Sciences at the University of Chicago.

The increase over 1993 reflects our strategy of focusing support through larger grants to a smaller number of key institutions. This will result in greater impact on the target recipients and enhance Mobil's image and prestige in the research and academic communities.

#### Purpose of Grant

These funds would be designated to support a variety of paleogeographic research projects headed by Dr. Alfred M. Ziegler Professor of Geology. Ziegler's research encompasses a broad spectrum of topics pertaining to reconstructing the geology of the past. Subject areas include; tectonics, geophysics, paleomagnetism, paleontology and paleoclimatology all on a continental plate reconstruction framework.

#### Effectiveness

Dr. Ziegler and his students are internationally recognized for their efforts in these scientific disciplines. Ziegler, his staff and students are presently constructing a series of paleogeographic maps that, when completed, will be used as a standard for many years to come. This project is of particular relevance to Mobil's global perspective. Other significant research is also underway, such as South China, sequence stratigraphy, and paleomagnetism which will also give significant uplift to our global efforts.

#### Benefit to Mobil

Results of this research will provide MEPTEC and E&P with a global geologic database which will assist in our regional understanding of the components of petroleum systems including: source, reservoir and seal. The global perspective that this research will provide is fundamental to Mobil's exploration programs. MEPTEC is not in a position to duplicate this research, but we are poised to incorporate it into our programs as soon as it becomes available.

# Mobil Foundation, Inc.

# grant recommendation

ORGANIZATION: City University of New York  
ADDRESS: New York, New York  
ZIP CODE: 10031  
ORGANIZATIONAL CONTACT: Professor Reuel Shinnar  
PROGRAM/DEPARTMENT: Department of Chemical Engineering

DATE: June 1993  
BUDGET YEAR: 1994  
AMOUNT: \$15,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.):  
MOBIL EMPLOYEE COORDINATING GRANT:

PRL - Process Division  
F. J. Krambeck

501 (C) (3) ATTACHED ☐  
(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1993 - \$15,000 1981/1992 - \$10,000 1977/1980 - \$ 5,000 1975/1976 - \$ 3,000	Exxon duPont	
		UNIT CODE:
		CAT. CODE:

## JUSTIFICATION:

### Recommended Grant

We recommend a 1994 grant of \$15,000 to the Chemical Engineering Department of the City University of New York.

### Purpose of Grant

This grant will enable Professor R. Shinnar to continue the research on thermodynamic and economic constraints on fuel conversion technology. This work has provided sound rationale for evaluating the potential of new processes at an early stage of development.

### Effectiveness

The Chemical Engineering Department of City University of New York maintains a strong program of energy-related research, including a large circulating fluidized-bed test system which has provided useful data for our process development. Professor Shinnar has been a valuable consultant to MRDC for many years.

### Reason for Increase or Decrease

n/a

### Benefits to Mobil

These research efforts at City University of New York can provide useful input and background directly to Mobil's research planning and process development activities. This grant also maintains our close ties with City University of New York and provides us access to their faculty. CUNY has a large pool of talented undergraduate and graduate students, including a large percentage of women and minorities.

# Mobil Foundation, Inc.

# grant recommendation

**ORGANIZATION:** Colorado School of Mines  
**ADDRESS:** Golden , Colorado  
**ZIP CODE:** 80401-1887  
**ORGANIZATIONAL CONTACT:** Dr. Roger M. Slatt (Head)  
**PROGRAM/DEPARTMENT:**

**DATE:** 7/12/93  
**BUDGET YEAR:** 1994  
**AMOUNT:** \$15,000

**RECOMMENDING MOBIL UNIT (CO.,DIV.&DEPT.):** -MEPTEC-Exploration  
**MOBIL EMPLOYEE COORDINATING GRANT:** R. J. Moiola

**501 (C) (3) ATTACHED**  
**(IF NEW ORGANIZATION)**

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1992 - \$10,000 1993 - \$11,000	Amoco Arco Chevron Marathon	Shell Texaco Elf
		UNIT CODE:
		CAT. CODE:

## JUSTIFICATION:

### Recommended Grant

Support in the amount of \$15,000 for 1994 is recommended for the Department of Geology and Geological Engineering, Colorado School of Mines. (CSM) The increase over 1993 reflects our strategy of focusing support through larger grants to a smaller number of key institutions. This will result in a greater impact on the target recipients and enhance Mobil's image and prestige in the research and academic communities.

### Purpose of Grant

These funds should be applied to the Department's Genetic Stratigraphy Research Program to support both field-studies and computer-simulation research on depositional systems in a sequence stratigraphic framework.

### Effectiveness

There are two fundamental areas of research in sequence stratigraphy that are important to the oil industry: the Exxon developed Seismic Stratigraphy and Genetic Stratigraphy. The CSM research program in Genetic Stratigraphy is acknowledged as an innovative state-of-the-art program in the qualitative and quantitative calibration of depositional sequences. The research is based on detailed outcrop studies and provides the data for computer modeling of both reservoir and depositional-system stratigraphic framework. The Texas Bureau of Economic Geology is using current research projects of CSM students as the basis of reservoir heterogeneity studies, a separate research program which Mobil supports. CSM students are well founded in the basics of sedimentology and stratigraphy, and produce creative and innovative interpretations of complex geologic patterns.

### Benefits to Mobil

This work seeks to establish the time and space relationships between source rock, reservoir, and seal and identify the constraints on these relationships. These are important elements in prospect development which not only help MEPTEC guide its research in this area, but also directly supports Exploration efforts. Support of CSM's research program in genetic stratigraphy will facilitate Mobil's direct access to the data and early contact with potential candidates for employment. Historically, CSM has provided Mobil with many excellent geoscientists.

# Mobil Foundation, Inc.

## grant recommendation

**ORGANIZATION:** Colorado School of Mines  
**ADDRESS:** Golden, CO  
**ZIP CODE:** 80401  
**ORGANIZATIONAL CONTACT:** Professor Phil Romig  
**PROGRAM/DEPARTMENT:** Department of Geophysics

**DATE:** 06/08/93  
**BUDGET YEAR:** 1994  
**AMOUNT:** \$15,000.00

**RECOMMENDING MOBIL UNIT (CO.,DIV.&DEPT.):** MRDC-MEPTEC-Expl.  
**MOBIL EMPLOYEE COORDINATING GRANT:** T.K. Young

**501 (C) (3) ATTACHED**  
**(IF NEW ORGANIZATION)**

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1992 - \$8,000 1993 - \$8,000	Not available	
		UNIT CODE:
		CAT. CODE:

### JUSTIFICATION:

#### Recommended Grant

Support in the amount of \$15,000 is recommended for 1994 for the Department of Geophysics at Colorado School of Mines.

The increase over 1993 reflects our strategy of focusing support through larger grants to a smaller number of key institutions. This will result in a greater impact on the target recipients and enhance Mobil's image and prestige in the research and academic communities.

#### Purpose of Grant

These funds should be used to continue a departmental fellowship on behalf of Mobil, administered by Department Chairman Phil Romig. This grant is aimed at encouraging top students to consider careers in the oil and gas industry, in spite of the lean times we are now facing.

#### Effectiveness

The Geophysics program at Colorado School of Mines (CSM) is among the top 6 in the world. In recent years, CSM has strengthened its graduate program with the addition of several new faculty members, including Ken Lerner. CSM, although a state school, depends on grants like this one to defray the large percentage of their costs not covered by state monies.

#### Benefit to Mobil

Numerous Mobil geophysicists received their degrees from CSM. Mobil is focusing greater attention on fewer schools. We have placed John Anderson at CSM as Mobil's first "distributed researcher".



# Mobil Foundation, Inc.

## grant recommendation

**ORGANIZATION:** Colorado School of Mines  
**ADDRESS:** Golden, Colorado  
**ZIP CODE:** 80401  
**ORGANIZATIONAL CONTACT:** Dr. Craig W. Van Kirk  
**PROGRAM/DEPARTMENT:** Petroleum Engineering Dept.

**DATE:** 06/15/93  
**BUDGET YEAR:** 1994  
**AMOUNT:** \$3,000.00

**RECOMMENDING MOBIL UNIT (CO.,DIV.&DEPT.):** MEPTEC/Mobil Drilling  
**MOBIL EMPLOYEE COORDINATING GRANT:** D.N. Nelson

**501 (C) (3) ATTACHED** ☐  
**(IF NEW ORGANIZATION)**

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1993 - \$3,000 - MEPSI 1987-92 - \$6,000 - MEPSI 1986 - \$8,000 - MEPSI/Denver 1984-85 - \$3,000 - Denver	Not available	
		UNIT CODE:
		CAT. CODE:

### JUSTIFICATION:

#### Recommended Grant

We recommend a grant of \$3,000 for the Petroleum Engineering Department at Colorado School of Mines.

#### Purpose of Grant

This grant will be dedicated to student assistance with emphasis on maintenance of the drilling curriculum.

#### Effectiveness

Colorado School of Mines is one of the leading sources of Petroleum Engineers for Mobil. We have long enjoyed a mutually beneficial relationship with this school, and have utilized faculty to teach certain of our Drilling Training courses. The Petroleum Engineering department has recently added new laboratory facilities and is currently renovating old classroom facilities in order to provide the students with the most effective teaching environment possible. In addition, the department is continually updating programs to ensure that students stay current with industry trends.

#### Benefit to Mobil

As enrollment in the core Petroleum Engineering schools continues to decline, even to the extent of closure of some P.E. departments such as that at Mississippi State University, it is incumbent upon industry to lend support to the viability of these schools. Although our recruiting program has been at minimal levels for the past two years, we should take steps to ensure that sources of high-quality engineering graduates do not disappear.



# Mobil Foundation, Inc.

# grant recommendation

**ORGANIZATION:** Dallas Regional Science Fair  
**ADDRESS:** Dallas, Texas  
**ZIP CODE:**  
**ORGANIZATIONAL CONTACT:**  
**PROGRAM/DEPARTMENT:**

**DATE:** 06/07/93  
**BUDGET YEAR:** 1994  
**AMOUNT:** \$1,000.00

**RECOMMENDING MOBIL UNIT (CO.,DIV.&DEPT.):** MRDC-MEPTEC  
**MOBIL EMPLOYEE COORDINATING GRANT:** M.P. Ramage

**501 (C) (3) ATTACHED** ☐  
**(IF NEW ORGANIZATION)**

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1996-78 - \$100 1979-83 - \$500 1984-91 - \$1,000 1992 - \$1,000 1993 - \$1,000	Not available	
		UNIT CODE:
		CAT. CODE:

## JUSTIFICATION:

### Recommended Grant

MEPTEC recommends 1994 support in the amount of \$1,000 for the Dallas Regional Science Fair.

### Purpose of Grant

The purpose of this grant is to provide funds for the continued advancement of the Annual Dallas Regional Science Fair. Mobil received considerable recognition as a sponsor of this event.

### Effectiveness

The Dallas Regional Science Fair is supported by many Dallas area businesses and professional organizations. High school winners from North Texas areas compete in this fair for chances to participate in the International Science Fair.

### Benefit to Mobil

This event helps to stimulate greater student interest in science and engineering. This serves as another means of encouraging students to consider the sciences for further studies.

# Mobil Foundation, Inc.

# grant recommendation

ORGANIZATION: **Center for Catalytic Science & Technology** DATE: 5/93  
Department of Chemical Engineering and Chemistry  
ADDRESS: **University of Delaware** BUDGET YEAR: 1994  
Newark, DE  
ZIP CODE: **19716** AMOUNT: \$5,000

ORGANIZATIONAL CONTACT: **Professor Henry C. Foley**  
PROGRAM/DEPARTMENT: **Catalytic Science & Technology**

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): **MRDC/CRL/Research** 501(C) (3) ATTACHED ☐  
MOBIL EMPLOYEE COORDINATING GRANT: **Paul B. Venuto** (IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1989 - \$5,000	Allied Signal	
1990 - \$5,000	FMC	
1991 - \$5,000	Omicron	
1992 - \$5,000	Hercules	
1993 - \$5,000	Rohm & Haas	UNIT CODE: _____
	DuPont	
	Nippon & other govt. agencies	ICAT. CODE: _____

## JUSTIFICATION:

### Recommended Grant

We recommend a grant of \$5,000 to Professor Henry C. Foley at the Center for Catalytic Science and Technology at the University of Delaware.

### Purpose of Grant

The highly effective program of Prof. Henry C. Foley (who was named a Presidential Young Investigator by the National Science Foundation) holds particular promise for generating innovative, long-range, fundamental findings in catalytic science that should prove of direct interest to petroleum processing and catalysis. Prof. Foley's program has four major thrusts: 1) bimetallic catalysts, 2) carbon-based molecular sieves, 3) the development of catalyst surface structure-selectivity relationships, and 4) catalytic membrane systems.

### Effectiveness

The Center for Catalytic Science & Technology is dedicated to conducting broad-based fundamental research in the area of heterogeneous and homogeneous catalysis. The program is geared to have maximum impact and potential long-range benefits for the petroleum and petrochemical industry. This program has been highly successful in achieving its goals and is of considerable direct informational benefit to Mobil. The program of this creative, young scientist is worthy of Mobil support. Prof. Foley joined the Center after four years at American Cyanamid, where he did research on selective CO hydrogenation catalysts and shape-selective carbon-supported catalysts. His academic background is in inorganic and physical chemistry. He has also become highly expert in the fundamentals of chemical engineering and reactor design.

### Reason for Increase or Decrease

### Benefit to Mobil

As stated above, the program will continue to have great value to research areas of direct interest to Mobil in a broad spectrum of technical areas, and we strongly recommend this continued funding.

NCO-4309A

# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: University of Delaware  
Newark DE  
19716

DATE: 5/93

BUDGET YEAR: 1994

AMOUNT: \$10,000

ORGANIZATIONAL CONTACT: Prof. M. Klein  
PROGRAM/DEPARTMENT: Chemical Engineering

RECOMMENDING MOBIL UNIT (CO, DIV&DEPT): MRDC/CRL/Research 501(C) (3) ATTACHED ☐  
MOBIL EMPLOYEE COORDINATING GRANT: V. W. Weekman, Jr. (IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1982-83 - \$10,000	Air Products & Chemicals	
1984-87 - \$ 5,000	Allied Signal	Amer. Cyanamid
1988-92 - \$10,000	Amoco Oil Co.	BASF
1993 - \$ 10,000	Chevron Oil	BOC Group
	DuPont	Celanese
	Exxon Education Found.	BP America
	W. R. Grace	Dow
	Hercules	FMC
	ICI Americas	Foxboro Co.
	and 14 other companies	

### JUSTIFICATION:

#### Recommended Grant

| We recommend continuation of a \$10,000 grant to the Department of Chemical Engineering at  
| University of Delaware.

#### Purpose of Grant

| The purpose of this grant is to support the educational and research activities of the  
| Department.

#### Effectiveness

| This Department is widely recognized as one of the outstanding chemical engineering departments  
| in this country, both for undergraduate and graduate education. It has consistently placed in  
| the top ten departments based on nationally recognized rankings. The Department's strongest  
| point is in research activities in the fields of catalysis, kinetics, and reaction engineering.  
| In these areas, the faculty represents a critical mass which is probably not exceeded in any  
| university in the United States. Their research abilities and interests are broadly based,  
| ranging from the basic chemistry of catalytic surfaces through reaction kinetic studies of  
| heterogeneous catalysis, to reactor design, and optimization studies.

#### Reason for Increase or Decrease

#### Benefit to Mobil

| The Department has been particularly valuable to Mobil as a source of scientific information.  
| Their expertise in kinetics and catalysis has given insight and understanding to members of CRL.  
| The staff also are a good conduit to activities in catalysis, kinetics and reaction engineering  
| throughout the world.

NCO-4309A

# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: University of Delaware  
ADDRESS: Newark, DE  
ZIP CODE: 19716  
ORGANIZATIONAL CONTACT: Prof. Michael T. Klein

DATE: June 1993  
BUDGET YEAR: 1994  
AMOUNT: \$50,000\*\*  
TOTAL PLEDGE: \$250,000  
over 5 yrs.-1994-1998

PROGRAM/DEPARTMENT: "Reaction Engineering for the Environment" Laboratory  
RECOMMENDING MOBIL UNIT (CO.,DIV.& DEPT.): MRDC/Research/PRL/CRL  
MOBIL EMPLOYEE COORDINATING GRANT: V. W. Weekman/H. A. McVeigh

501 (C) (3) ATTACHED ☐  
(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
New Program	DuPont - \$1,500,000* Hercules - 250,000* W.L. Gore - 250,000* Air Products- 100,000* Merck - 100,000* Rohm & Haas - 50,000* Amoco - 50,000*	
		UNIT CODE:
		CAT.CODE:

### JUSTIFICATION:

#### Recommended Grant

We recommend a \$250,000 grant over five years to the "Reaction Engineering for the Environment" Laboratory at the University of Delaware, with the first \$50,000 installment to be paid in 1994.

#### Purpose of Grant

This grant will help to support a new initiative, the establishment of a new \$1,500,000 first-class, modern reactor laboratory focusing on environmental reaction engineering.

This laboratory will be used in undergraduate instruction and in undergraduate and graduate research to teach how reaction engineering can be applied to the solution of environmental issues, both in terms of remediation technologies and reformulated environmentally attractive products.

This new laboratory is part of the broader \$22,000,000 Colburn Laboratory renovation initiative. The Colburn Laboratory is the home of Delaware's Department of Chemical Engineering. The State of Delaware will provide a 2:1 matching of funds raised from private sources for the Colburn renovation.

#### Effectiveness

The Department of Chemical Engineering and its Center for Catalytic Science at the University of Delaware are nationally recognized for their excellence and orientation to industry issues. Combining the solid theoretical background provided in the classroom with the pragmatic hands-on experience in the proposed "Reaction Engineering for the Environment" Laboratory will enable the development of uniquely capable graduates.

The State of Delaware will provide matching funds in a 2:1 ratio. Thus, this \$250,000 Mobil grant will be leveraged to \$750,000 when the State of Delaware's matching \$500,000 is included.

#### Benefits to Mobil

With this grant, Mobil will be a primary supporter of the "Reaction Engineering for the Environment" Laboratory. This funding will clearly demonstrate Mobil's commitment to developing technical solutions to environmental challenges.

Members of Delaware's staff are valuable contacts for Mobil's scientific effort.

- \* These grants are to the broader Colburn Laboratory which includes the new "Reaction Engineering for the Environment" Laboratory. No grants have yet been made solely to the "Reaction Engineering for the Environment" Laboratory but other companies are being solicited.

\*\* Includes recommended grants of \$15,000 from PRL and \$35,000 from CRL.

# Mobil Foundation, Inc.

# grant recommendation

ORGANIZATION: Drexel University  
ADDRESS: Philadelphia, Pennsylvania  
ZIP CODE: 19104  
ORGANIZATIONAL CONTACT: Professor C. Weinberger  
PROGRAM/DEPARTMENT: Department of Chemical Engineering

DATE: June 1993  
BUDGET YEAR: 1994  
AMOUNT: \$10,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.):  
MOBIL EMPLOYEE COORDINATING GRANT:

PRL - Process Division  
T. R. Stein

501 (C) (3) ATTACHED ☐  
(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1993 - \$15,000	Exxon \$ 5,000	
1986/1992 - \$10,000	duPont \$10,000	
1982/1985 - \$ 7,000	Rohm & Haas \$12,000	
1981 - \$ 5,000	Air Products \$ 5,000	
	Monsanto \$ 1,000	
		UNIT CODE:
		CAT. CODE:

## JUSTIFICATION:

### Recommended Grant

We recommend a \$10,000 grant to Drexel University's Chemical Engineering Department for 1994.

### Purpose of Grant

The purpose of the grant is general support of Drexel's large Chemical Engineering Department, which has a well-deserved reputation for high standards especially in undergraduate education.

### Effectiveness

Drexel maintains a large Chemical Engineering Department and has always valued its well-deserved reputation for undergraduate education. Most students participate in the cooperative education program and graduate with 18 months of industrial experience -- a truly valuable asset. We have participated in their cooperative program for many years by employing Drexel students, including qualified minority students, during their industrial training assignments. Being a local school, Drexel has supplied us with many top-quality chemical engineers.

### Reason for Increase or Decrease

As planned, the 1994 Drexel grant resumes its historic funding level of \$10,000 per year. The 1993 increase resulted from a one-time distribution due to a consolidation of grant issues.

### Benefits to Mobil

Continuing our grant to Drexel will demonstrate our commitment to the local technical community and its cooperative program. This grant also maintains our ties with Drexel and provides us access to their faculty. Drexel has a large pool of talented undergraduate and graduate students, including a large percentage of women and minorities.

# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: Drexel University  
ADDRESS: Philadelphia, Pennsylvania  
ZIP CODE: 19104  
ORGANIZATIONAL CONTACT: Prof. N. P. Cernansky  
PROGRAM/DEPARTMENT: Mechanical Engineering

DATE: May 1993  
BUDGET YEAR: 1994  
AMOUNT: \$10,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): MRDC Research, Prod. R&TS Div.  
MOBIL EMPLOYEE COORDINATING GRANT: F. B. Fitch

501 (C) (3) ATTACHED ☐  
(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1986 \$ 5,000 1987-88 \$ 6,000 1989-93 \$10,000	Instrument Company \$17,000 Incineration Company \$25,000	
		UNIT CODE:
		CAT. CODE:

### JUSTIFICATION:

#### Recommended Grant

We recommend a \$10,000 grant to the Drexel University Department of Mechanical Engineering.

#### Purpose of Grant

The proposed grant would be used to support continuing studies on the effects of hydrocarbon chemistry and oxygenate on pre-ignition and auto-ignition.

#### Effectiveness

The department conducts high-caliber research in the indicated areas. In addition, they are recognized for their research in formation and control of pollutants, spray formation, turbulent flame propagation, and the numerical modeling of combustion systems. Prof. Cernansky is a recognized expert in diesel combustion, air pollution emissions and controls, and utilization of alternative and synthetic fluids. In recognition of his expertise, he is Hess Chair Professor of Combustion.

#### Reason for Increase or Decrease

No change

#### Benefits to Mobil

This research will give us useful data for assessing the need for/and desirability of fuel/additive formulation changes. This is an area of increasing competitive and potential regulatory activity, and thus of increasing importance to Mobil. In addition, Prof. Cernansky advises us of new developments in the technical community. Paulsboro Laboratory personnel have maintained a continuing dialogue with him and have a high respect for his professional ability.



# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: The Franklin Institute  
ADDRESS: 20th & The Parkway, Philadelphia, PA  
ZIP CODE: 19103  
ORGANIZATIONAL CONTACT: Mr. Donald Smith (215) 448-1208  
PROGRAM/DEPARTMENT: ACCESS

DATE: June, 1993  
BUDGET YEAR: 1994  
AMOUNT: \$4,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.):

MRDC, Research, PRL

501 (C) (3) ATTACHED ☐

MOBIL EMPLOYEE COORDINATING GRANT:

H. A. McVeigh

(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1990 - \$ 3,500	E. I. du Pont - \$13,500	
1991 - \$ 3,500	Rohm & Haas - \$ 6,500	
1992 \$ 5,000	Subaru - \$10,000	
1993 - \$ 4,000	Sun Oil - \$10,000	
		UNIT CODE:
		CAT. CODE:

### JUSTIFICATION:

#### Recommended Grant

We recommend a grant of \$4,000 to The Franklin Institute ACCESS program that is customized to augment the science education of students in our locale.

#### Purpose of Grant:

The grant will support continued operation of a customized version of the Franklin Institute's ACCESS program for students from the Paulsboro school district. In addition to supporting local student group visits to the Franklin Institute, the grant would provide continued teacher training in the basic sciences, along with providing classroom science kits for their students' hands-on use, and follow-up materials that complement their current science curriculums.

#### Effectiveness

The Franklin Institute Access program has become an innovative catalyst and exciting stimulus for science education in its recipient schools. Its mission is to interest and educate students in the sciences. It offers ongoing educational student programs and teacher training opportunities. By combining its many effective programs into a virtual blitz of educational experience for a focus group of Paulsboro teachers and students, it is accelerating our students' interest in science, understanding of it, and eventual pursuit of studies and careers in science. Continuation of this program ensures a heightened learning opportunity for both teachers and students as they progress from 'dreading' the sciences to being 'turned on' to them.

Correspondence from these students and teachers this past year testifies to the effectiveness of the program and their enthusiasm for it. This program has provided a significant learning experience for all of them. The program will continue to operate effectively in the coming year by focusing on the teacher training, classroom instruction, and hands-on science experiment kits as the primary elements of the program.

#### Benefits to Mobil

Grant support for this program would continue to substantiate Mobil Corporation's commitment to quality science education and outreach programs to stimulate an interest in science and provide exciting educational opportunities for our youths. In addition, the participation of schools located within our facility's neighborhood greatly benefit from this program in a vital area of need. Continuation of this program assures a significant community relations opportunity for our Mobil facility at a time when we can benefit from community support. We have received very favorable reaction to the merit of this program from the school community and very enthusiastically from the students themselves.



# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: University of Houston  
Houston TX  
77004

DATE: 5/93

BUDGET YEAR: 1994

AMOUNT: \$10,000

ORGANIZATIONAL CONTACT: **Prof. Dan Luss**  
PROGRAM/DEPARTMENT: **Dept. of Chemical Engineering**

RECOMMENDING MOBIL UNIT (CO, DIV&DEPT): MRDC/CRL/Research 501(C) (3) ATTACHED ☐  
MOBIL EMPLOYEE COORDINATING GRANT: V. W. Weekman, Jr. (IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1987 \$ 5,000	Exxon Union Carbide	
1988-93 \$10,000	Shell Rohm & Haas	
	Amoco	
	Dupont	UNIT CODE: _____
	Dow	
	Monsanto	CAT. CODE: _____
	Texaco	
	Chevron	

### JUSTIFICATION:

#### Recommended Grant

| We recommend to continue a grant of \$10,000 to the Department of Chemical Engineering at the University of Houston.

#### Purpose of Grant

| This grant is for the general support of the research and educational activities of the Department.

#### Effectiveness

| This Department is currently ranked in the top ten chemical engineering departments in the country. It has an extremely strong faculty that specializes in chemical reaction engineering which is of most interest to Mobil. Their research activities include reaction kinetic studies, heterogeneous catalysis reactor design and control, and optimization studies.

#### Reason for Increase or Decrease

#### Benefit to Mobil

| We have close ties with two of the leading members of the Department, Professor Dan Luss and Neil Amundson. Through this grant, Mobil will have access to timely information in the scientific fields mentioned above which are of vital interest to Mobil.

NCO-4309A

# Mobil Foundation, Inc.

# grant recommendation

**ORGANIZATION:** University of Houston  
**ADDRESS:** Houston, TX  
**ZIP CODE:**  
**ORGANIZATIONAL CONTACT:** Professor Dan Luss  
**PROGRAM/DEPARTMENT:** Department of Chemical Engineering

**DATE:** 7/12/93  
**BUDGET YEAR:** 1994  
**AMOUNT:** \$15,000

**RECOMMENDING MOBIL UNIT (CO.,DIV.&DEPT.):** MRDC-MEPTEC  
**MOBIL EMPLOYEE COORDINATING GRANT:** R. F. Heinemann

**501 (C) (3) ATTACHED**  
**(IF NEW ORGANIZATION)**

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
\$5,000 - 1989 \$10,000 - 1990 \$10,000 - 1991 \$10,000 - 1992 \$10,000 - 1993	Not available	
		UNIT CODE:
		CAT. CODE:

## JUSTIFICATION

### Purpose of Grant

To support research in reservoir simulation and mathematical modeling of in-situ combustion processes. This research will be performed at the Laboratory of Numerically Intensive Computation (L-NIC), University of Houston, in the Chemical/Petroleum Engineering Department. The department is chaired by Professor Dan Luss and includes Professor Neal Amundson, Professor Harry Deans, Professor John Killough, Professor May Wheeler (Math Department), and Professor Frank Kovarik.

The increase over 1993 reflects our strategy of focusing support through larger grants to a smaller number of key institutions. This will result in greater impact on the target recipients and enhance Mobil's image and prestige in the research and academic communities.

### Effectiveness

The Chemical/Petroleum Engineering Department of Houston is one of the top 10 departments in the country with an internationally renowned research program. The department is presently enhancing its research activities in the petroleum engineering area. Mobil will benefit significantly by continuing support for this research program.

### Benefits to Mobil

As enhanced oil recovery, particularly recovery of heavy oil by thermal methods, becomes important, there is a need for reservoir simulators which will accurately predict reservoir performance by tracking the movement and distribution of fluids. This problem consists of two key parts: 1) to understand and mathematically model various physical and chemical phenomena; and 2) to represent these phenomena in reservoir simulators for field applications. Examples of the first part are: viscous fingering, effect of temperature on relative permeability, in-situ combustion reactions mechanisms, etc. In the second part, we need to consider how to model these processes on a macroscopic level. These processes produce sharp fronts (combustion, temperature, miscible fronts) and, at present, simulators tend to diffuse these interfaces. The Chemical/Petroleum Engineering Department at the University of Houston has an excellent research program, both experimental and theoretical, to study some of these issues. For instance, they are using the cat scan to investigate fluid flow characteristics on a microscopic level and, from that information, they determine suitable macroscopic mathematical models. The department has initiated programs to model the movement of sharp interfaces produced in EOR processes. The Chemical Engineering Department, along with the Mathematics Department, has established the laboratory for Numerically Intensive Computation (L-NIC), where they will study new mathematical techniques for reservoir simulation; for example, the use of parallel computers for intensive computations.

## grant recommendation

**ORGANIZATION:**

**ADDRESS:**

ZIP CODE:

ORGANIZATIONAL CONTACT:

PROGRAM/DEPARTMENT:

University of Houston

Houston, TX

77004

Professor D. Luss

Department of Chemical Engineering

DATE:

BUDGET YEAR:

AMOUNT:

May 1993

1994

**\$10.000**

RECOMMENDING MOBIL UNIT (CO., DIV. &amp; DEPT.):

### MOBIL EMPLOYEE COORDINATING GRANT:

**PRL - Process Division**

A. A. Avidan

501 (C) (3) ATTACHED ☐

(If New Organization)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK
1991/1993 - \$10,000	None	For Foundation Use Only:
1981/1986 - \$ 5,000		
1979/1980 - \$ 3,000		
		UNIT CODE:
		CAT. CODE:

**JUSTIFICATION:**

### Recommended Grant

For 1994, we recommend a grant of \$10,000 to the Chemical Engineering Department of the University of Houston.

### Purpose of Grant

This grant will enable Professor Dan Luss, the Department Chairman, to continue his research in the areas of reaction engineering. He is a noted authority in many areas of interest to us, for example, the understanding of fundamentals of trickle bed reactors.

## Effectiveness

The Chemical Engineering Department is one of the top chemical engineering schools in the country, particularly in the areas of catalysis, kinetics, and reaction engineering. We maintain an excellent relationship with the Department and current Chairman, Professor Dan Luss, who is well known in the reaction engineering field. Professor Luss is a leading authority in the new field of synthesis of novel ceramic materials, a field of great potential importance to petroleum processing catalysts of the future. Other faculty members conduct excellent research in catalysis and related areas. The Chemical Engineering Department is accredited by the AIChE and offers BS, MS, and PhD degrees.

## Reason for Increase or Decrease

N/A

## Benefits to Mobil

The research conducted at Houston is of particular interest to Mobil's research activities, e.g. catalysis and reaction engineering. We routinely send research personnel to the Applied Heterogeneous Catalysis Course which is sponsored by the Department and is enhanced by the research conducted there.

# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: University of Illinois  
Urbana IL  
61801

DATE: 5/93

BUDGET YEAR: 1994

AMOUNT: \$5,000

ORGANIZATIONAL CONTACT: **Prof. Eric Oldfield**  
PROGRAM/DEPARTMENT: **School of Chemical Science**

RECOMMENDING MOBIL UNIT (CO, DIV&DEPT): **MRDC/CRL/Research** 501(C) (3) ATTACHED ☐  
MOBIL EMPLOYEE COORDINATING GRANT: **V. W. Weekman, Jr.** (IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1983-84 \$25,000	no grants by	
1985-87 \$30,000	other	
1988-92 \$10,000	corporations	
1993 \$ 5,000		UNIT CODE: _____
		CAT. CODE: _____

### JUSTIFICATION:

#### Recommended Grant

We recommend continuation of a \$5,000 grant to the School of Chemical Science at the University of Illinois.

#### Purpose of Grant

This grant is for the support of graduate research and teaching in the area of high field, solid-state NMR studies of aluminosilicates, including zeolites.

#### Effectiveness

This Department has a very extensive solid-state NMR facility containing the most powerful, highest-resolution spectrometers available in the world today under the direction of Dr. Eric Oldfield who is internationally known and respected for his experimental NMR work. He has a very effective research group involved in studies of the fundamental structural properties of inorganic solids, including zeolites. Current research activities will add greatly to a fundamental understanding of the properties of zeolite catalysts, a field of vital interest to Mobil and the energy industry.

#### Reason for Increase or Decrease

DRL is no longer sharing this grant with CRL.

#### Benefit to Mobil

Dr. Oldfield has recently collaborated with Mobil scientists on several separate occasions with excellent results. As a result of these studies, we now know considerably more about the structure and reactivity of substituted and activated ZSM-5 materials and about NMR of catalytic solids. These contacts have been invaluable and have provided valuable assistance in establishing our own NMR facilities.

# Mobil Foundation, Inc.

# grant recommendation

**ORGANIZATION:** University of Illinois  
**ADDRESS:** Champaign-Urbana, Illinois  
**ZIP CODE:**  
**ORGANIZATIONAL CONTACT:** Professors T. J. Hanratty and J.L.L. Higdon  
**PROGRAM/DEPARTMENT:** Department of Chemical Engineering

**DATE:** 7/12/93  
**BUDGET YEAR:** 1994  
**AMOUNT:** \$15,000

**RECOMMENDING MOBIL UNIT (CO.,DIV.&DEPT.):** MEPTEC  
**MOBIL EMPLOYEE COORDINATING GRANT:** S. L. Lyons

**501 (C) (3) ATTACHED**  
**(IF NEW ORGANIZATION)**

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
\$10,000 - 1993	not available	
		UNIT CODE:
		CAT. CODE:

## JUSTIFICATION:

### Recommended Grant

We recommend a \$15,000 grant to Professors T. J. Hanratty and J. L. L. Higdon, Department of Chemical Engineering at the University of Illinois - Champaign/Urbana.

The increase over 1993 reflects our strategy of focusing support through larger grants to a smaller number of key institutions. This will result in greater impact on the target recipients and enhance Mobil's image and prestige in the research and academic communities.

### Purpose

To support fundamental research efforts underway in the areas of multi-phase flow in pipes and mathematical modeling of flow in porous media. The understanding and modeling of fundamental fluid flow phenomena is important to the production of oil.

### Effectiveness

Professors Hanratty and Higdon are recognized as leaders in fundamental fluid mechanics research. Professor Tom Hanratty is a member of the National Academy of Engineering recognizing his expertise in the areas of turbulence and multi-phase flow. His experimental and numerical contributions are well known to the engineering community worldwide and have led to significant advances in turbulence, mass transfer, multi-phase flow, and the computational modeling of these processes. Professor Jon Higdon is an expert in the modeling of microscopic flow in porous media and has significantly advanced the modeling of acoustic wave propagation through porous media. Their work is interfaced with the University of Illinois, National Center for Supercomputing Applications, one of five such centers supported by the National Science Foundation. Their work continues to make new and significant contributions which quickly find acceptance and application in academia and industry.

### Benefit

Both numerical modeling concepts and experimental techniques developed by Professors Hanratty and Higdon have proved highly useful and are in practice today in U.S. industry. Their contributions should continue to provide new insights and solutions to fluid flow problems in the future. They have also trained a number of MEPTEC staff members and their research program is a long-term source of high quality PhD chemical engineers for Mobil.



**Mobil Foundation, Inc.****grant recommendation**

ORGANIZATION: University of Illinois  
ADDRESS: Urbana, Illinois  
ZIP CODE: 61801  
ORGANIZATIONAL CONTACT: Dr. Richard C. Alkire  
PROGRAM/DEPARTMENT: Department of Chemical Engineering

DATE: May 1993  
BUDGET YEAR: 1994  
AMOUNT: \$10,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.):  
MOBIL EMPLOYEE COORDINATING GRANT:

PRL - Process Division  
T. R. Stein

501 (C) (3) ATTACHED ☐  
(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1989/1993 - \$10,000	Amoco Exxon	
		UNIT CODE:
		CAT. CODE:

**JUSTIFICATION:****Recommended Grant**

We recommend a \$10,000 grant for 1994 to the Department of Chemical Engineering at the University of Illinois at Urbana-Champaign.

**Purpose of Grant**

As a result of recent retirements, the Department of Chemical Engineering has added four new faculty over the past several years. This requires substantial financial support with start-up funds averaging around \$200,000 per new faculty member. In addition, the Department is preparing to undertake a major renovation of the Roger Adams Laboratory, its primary chemical engineering research and instructional facility. This comes at a time when the state of Illinois is substantially reducing its support level to the University. This financial grant will demonstrate our continued commitment to supporting the engineering faculty.

**Effectiveness**

The University of Illinois has a long-standing reputation as one of the nation's premier engineering schools. The Chemical Engineering Department currently has over 350 undergraduates and around 70 graduate students enrolled. The effectiveness of the department is evidence in that over the last four years, Illinois produced more chemical engineers per faculty than any chemical engineering department in the nation, at both the BS and PhD levels. The Department annually graduates about 80 BS, 15 MS, and 15 PhD's in chemical engineering. Also, its graduates consistently achieve prominent positions throughout industry, government, and academia.

**Reason for Increase or Decrease**

n/a

**Benefits to Mobil**

The proposed grant will further strengthen our faculty ties and maintain Mobil's strong image. In addition, the faculty has strong research interests in a variety of technical areas which are of interest to Mobil including colloidal & interfacial science, molecular thermodynamics, chemical process optimization, chemical kinetics, and fundamental studies of catalysts and catalytic chemistry.

## grant recommendation

ORGANIZATION: University of Illinois  
ADDRESS: Urbana, Illinois  
ZIP CODE: 61801  
ORGANIZATIONAL CONTACT: Morton W. Weir  
PROGRAM/DEPARTMENT: Department of Chemical Engineering

DATE: May 1993  
BUDGET YEAR: 1994  
AMOUNT: \$10,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): PRL - Process Division 501 (C) (3) ATTACHED ☐  
MOBIL EMPLOYEE COORDINATING GRANT: T. B. Stein (IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK
New Program		For Foundation Use Only:
		UNIT CODE:
		CAT. CODE:

**JUSTIFICATION:**

### Recommended Grant

**We recommend a \$100,000\* grant to the University of Illinois in support of "ChE 2000" Campaign for Chemical Engineering.**

### Purpose of Grant

The purpose of the grant is to provide support to enhance chemical engineering education at the University. The first phase of the campaign is to renovate the Roger Adams Laboratory, which is the primary research and instructional facility. The renovation effort is designed to improve the Department's undergraduate instruction laboratories, facilitate new research and enhance interaction between students and faculty.

## Effectiveness

During the 55 years since the Laboratory was designed, the methods of instruction, scope of research and laboratory requirements have advanced dramatically. To keep pace with industry standards and the facilities of chemical engineering departments elsewhere, the University of Illinois has initiated this campaign to continue its tradition of excellence. Improved facilities will enable the department to retain outstanding faculty and continue to attract the best and brightest students.

## Reason for Increase or decrease

n/a

## Benefits to Mobil

Mobil will have the opportunity for name recognition in campaign publications and publicity when the public phase begins. This grant will serve to strengthen our relationship with the University, enhance Mobil's on campus image, and ultimately help Mobil to attract the top graduates.

\*\$100,000 pledge over six years: \$50,000 in 1992 and \$10,000/year from 1993-1997.



# Mobil Foundation, Inc.

# grant recommendation

**ORGANIZATION:** Indiana University  
**ADDRESS:** Bloomington, Indiana  
**ZIP CODE:** 47405  
**ORGANIZATIONAL CONTACT:** Dr. Lisa M. Pratt  
**PROGRAM/DEPARTMENT:** Department of Geology

**DATE:** 07/12/93  
**BUDGET YEAR:** 1994  
**AMOUNT:** \$15,000.00

**RECOMMENDING MOBIL UNIT (CO.,DIV.&DEPT.):**MRDC-MEPTEC  
**MOBIL EMPLOYEE COORDINATING GRANT:** M. A. Rooney

**501 (C) (3) ATTACHED**  
**(IF NEW ORGANIZATION)**

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1990 - \$ 5,000 1991 - \$ 5,000 1992 - \$10,000 1993 - \$11,000	Shell Intevep	
		UNIT CODE:
		CAT. CODE:

## JUSTIFICATION:

### Recommended Grant

Support in the amount of \$15,000 for 1994 is recommended for the Department of Geology at Indiana University. The increase over 1993 reflects our strategy of focusing support through larger grants to a smaller number of key institutions. This will result in greater impact on the target recipients and enhance Mobil's image and prestige in the research academic communities.

The increase over 1993 reflects our strategy of focusing support through larger grants to a smaller number of key institutions. This will result in greater impact on the target recipients and enhance Mobil's image and prestige in the research and academic communities.

### Purpose of Grant

These funds should be applied to the organic geochemistry program of Dr. Lisa Pratt to support research on the influence of depositional environment on the composition of sedimentary organic matter.

### Effectiveness

Dr. Pratt is an outstanding scientist who has initiated a research program that emphasizes integrating organic geochemistry with geology. She and her students are investigating the influence of tectonics and paleogeography on the deposition of organic-rich sediments in the circum-Caribbean region during the early development of the Atlantic Ocean. Their work has drawn interest and support from companies exploring for oil in Central and South America.

### Benefits to Mobil

Support for Dr. Pratt's program will give MEPTEC direct access to geochemical data concerning the influence of depositional environments on the nature of organic matter preserved in source beds. Their focus on the circum-Caribbean region will fill critical gaps in our knowledge of petroleum systems in areas of great interest to MNBD.

# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: Lehigh University  
ADDRESS: Bethlehem, PA  
ZIP CODE: 18015  
ORGANIZATIONAL CONTACT: Dr. Harvey Stenger, Chairman  
PROGRAM DEPARTMENT: Chemical Engineering Department

DATE: May 1993  
BUDGET YEAR: 1994  
AMOUNT: \$10,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.):

MRDC Research, Prod. R&TS Div.

501 (C) (3) ATTACHED ☐

MOBIL EMPLOYEE COORDINATING GRANT:

H. J. Van Riper

(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1989-93 \$10,000	Many other companies have contributed significantly to Lehigh's Chemical Engineering Department.	
		UNIT CODE:
		CAT. CODE:

### JUSTIFICATION:

#### Recommended Grant

We recommend a grant of \$10,000 to the Chemical Engineering Department of Lehigh University.

#### Purpose of Grant

General support of graduate research programs in multiphase processing. This activity is of great interest to Mobil and MRDC because of its pertinence to many of our catalysis projects. This grant will demonstrate our continued interest in this field.

#### Effectiveness

This grant will prove effective in continuing development of specific research programs pertinent to Mobil's Product and Process development activities.

#### Reason for Increase or Decrease

No change.

#### Benefits to Mobil

Multiphase processing is one of Lehigh's Chemical Engineering Department's four areas of emphasis. It encompasses many areas common to refining operations and oil product applications. Development of programs to better understand lubrication and processing phenomena is important to many of our ongoing programs.

**Mobil Foundation, Inc.****grant recommendation**

ORGANIZATION: **Lehigh University**  
Chemistry Department  
ADDRESS: **Bethlehem, Pennsylvania**  
ZIP CODE: **18015**

DATE: 5/93  
BUDGET YEAR: 1994  
AMOUNT: \$5,000

ORGANIZATIONAL CONTACT: **Professor Kamil Klier**  
PROGRAM/DEPARTMENT: **Chemistry Department**

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): **MRDC/CRL/Research** 501(C) (3) ATTACHED ☐  
MOBIL EMPLOYEE COORDINATING GRANT: **J. G. Santiesteban** (IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1992-\$5000	None	
1993-\$5000		
		UNIT CODE: _____
		CAT. CODE: _____

**JUSTIFICATION:****Recommended Grant**

|We recommend a \$5,000 grant to Professor Kamil Klier of the Chemistry Department at Lehigh University.

**Purpose of Grant**

|Support of research involving fundamental studies of the synthesis of oxygenates from hydrocarbons or synthesis gas over heterogeneous catalysts, including transition metal sulfides and zeolites. Research will be carried out by an advanced graduate student and/or postdoctoral research associate.

**Effectiveness**

|Prof. Klier's research group currently has programs of research on higher alcohol synthesis from  $H_2/CO$ , selective oxidation of methane to oxygenates, i.e.  $H_2CO$  and  $CH_3OH$ , synthesis of high octane ethers via novel pathways. These research programs also attempt to correlate solid state properties of sulfide and oxide catalysts with their activity and selectivity. Students are well trained for industrial catalysis research with hands-on experience in catalyst preparation, characterization and testing.

**Reason for Increase or Decrease****Benefit to Mobil**

|Possible new applications for zeolites and sulfides as catalysts for new processes important in the synthesis of energy chemicals and environmental control.

NCO-4309A

# Mobil Foundation, Inc.

## grant recommendation

**ORGANIZATION:** Louisiana State University  
**ADDRESS:** Baton Rouge, Louisiana  
**ZIP CODE:** 70803  
**ORGANIZATIONAL CONTACT:** Dr. H.H. Roberts (Head)  
**PROGRAM/DEPARTMENT:** Coastal Studies Institute

**DATE:** 7/15/93  
**BUDGET YEAR:** 1994  
**AMOUNT:** \$15,000

**RECOMMENDING MOBIL UNIT (CO.,DIV.&DEPT.):** -MRDC/MEPTEC-Exploration  
**MOBIL EMPLOYEE COORDINATING GRANT:** R. J. Moiola

**501 (C) (3) ATTACHED** ☐  
**(IF NEW ORGANIZATION)**

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1988 - \$ 5,000 1989 - \$ 5,000 1990 - \$10,000 1991 - \$10,000	Amoco Arco B.P. Chevron	Exxon Phillips Shell Texaco
		UNIT CODE:
		CAT. CODE:

### JUSTIFICATION:

#### Recommended Grant

Support in the amount of \$15,000 for 1994 is recommended for the Coastal Studies Institute at Louisiana State University.

#### Purpose of Grant

These funds should be applied to the institute's marine geology/sedimentology program to support research on continental shelf, slope, and basin plain sedimentation.

#### Effectiveness

Scientists at the Coastal Studies Institute are among the world's leading authorities on deltaic sedimentation and marine depositional processes. Their studies have had a significant worldwide impact on offshore hydrocarbon exploration. In particular, they have made major contributions to our understanding of deltaic reservoirs and to the role of eustatic changes in developing marine sand bodies. Their present research, which focuses on documenting the seismic, sedimentological and sequence stratigraphic aspects of shelf edge, slope and submarine fan deposits, is directed towards improving industry's understanding of sedimentological processes in order to better predict the geometry and quality of sandstone reservoirs for both exploration and production applications.

#### Benefits to Mobil

Support for the institute's research program provides Mobil with the direct and timely transfer of new data and ideas on shelf, slope, and basin plain sedimentation and on the impact of sea level fluctuations in generating marine reservoirs. Additionally, the institute is a vital source of information for hydrocarbon exploration in offshore Louisiana and the Gulf of Mexico in general.

# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: Massachusetts Inst. of Technology  
ADDRESS: Cambridge, Massachusetts  
ZIP CODE: 02139  
ORGANIZATIONAL CONTACT: Professor R. Brown  
PROGRAM/DEPARTMENT: Department of Chemical Engineering

DATE: May 1993  
BUDGET YEAR: 1994  
AMOUNT: \$15,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.):  
MOBIL EMPLOYEE COORDINATING GRANT:

PRL - Process Division  
T. R. Stein

501 (C) (3) ATTACHED ☐  
(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1989/1993 - \$15,000	ARCO, Chevron, Exxon,	
1982/1988 - \$10,000	duPont, Shell	
1979/1981 - \$ 5,000		
1978 - \$10,000 (ChE & Industrial Liaison)		
1974/1977 - \$ 5,000		
		UNIT CODE:
		CAT. CODE:

### JUSTIFICATION:

#### Recommended Grant

We recommend a \$15,000 grant for 1994 to the Department of Chemical Engineering at the Massachusetts Institute of Technology.

#### Purpose of Grant

This financial support will demonstrate our continued interest in the teaching and research programs sponsored by the Department and maintain our strong professional relationships with the faculty and students. This commitment will strengthen our position to utilize the technical resources within the Department.

#### Effectiveness

MIT has a large, diverse Chemical Engineering faculty with world-renowned experts in a number of technical areas including reaction engineering, catalysis, combustion, and expert systems. Through the years, the Department has been instrumental in shaping the chemical engineering profession. The Department maintains a leadership role in the education of chemical engineers in traditional disciplines and emerging technologies. The Department has several hundred undergraduates and over 200 graduate students. The Department attracts top students and faculty from around the world. Alumni hold prominent positions throughout industry, government, and academia.

#### Reason for Increase or Decrease

n/a

#### Benefits to Mobil

Financial support of the Department is one component of our overall on-campus presence designed to demonstrate Mobil's commitment to student education and support for technological advancement. In recent years, Mobil has developed strong personal interactions with the Department and faculty, including former chairman and current Mobil consultant, Dr. James Wei, and current chairman, Dr. Robert A. Brown, a recognized leader in transport processes and numerical analysis. This support will assist in ensuring a continuation of Mobil's on-campus position within the Department.

# Mobil Foundation, Inc.

## grant recommendation

**ORGANIZATION:** Massachusetts Institute of Technology  
**ADDRESS:** 42 Carleton St.-Cambridge, MA  
**ZIP CODE:** 02142  
**ORGANIZATIONAL CONTACT:** Professor M. Nafi Toksoz  
**PROGRAM/DEPARTMENT:** Earth Sciences Laboratory

**DATE:** 06/04/93  
**BUDGET YEAR:** 1994  
**AMOUNT:** \$15,000.00

**RECOMMENDING MOBIL UNIT (CO.,DIV.&DEPT.):** MEPTEC-Expl. Techn.  
**MOBIL EMPLOYEE COORDINATING GRANT:** S. J. Laster

**501 (C) (3) ATTACHED** ☐  
**(IF NEW ORGANIZATION)**

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1992 - \$10,000 1993 - \$10,000	Not available	
		UNIT CODE:
		CAT. CODE:

### JUSTIFICATION:

#### Recommended Grant

Support in the amount of \$15,000 is recommended for 1994 for the Earth Resources Laboratory at MIT. The increase over 1993 reflects our strategy of focusing support through larger grants to a smaller number of key institutions. This will result in greater impact on the target recipients and enhance Mobil's image and prestige in the research academic communities.

The increase over 1993 reflects our strategy of focusing support through larger grants to a smaller number of key institutions. This will result in greater impact on the target recipients and enhance Mobil's image and prestige in the research and academic communities.

#### Purpose of Grant

These funds should be used to support the research of Professor Nafi Toksoz and his staff in theoretical and computational aspects of elastic wave propagation.

#### Effectiveness

Professor Toksoz has built the Earth Sciences Laboratory at MIT into a fine, industry-oriented geophysics R&D program. Toksoz's program is focused on research in elastic wave propagation and seismic inversion.

#### Benefits to Mobil

Numerous current MEPTEC employees are geophysics alumni from MIT. There is ongoing dialogue between personnel in Toksoz's laboratory and geophysicists in long-term R&D at MEPTEC. In particular, MEPTEC recently used MIT's nCube parallel computer to generate a synthetic data set for testing Mobil's inversion technology. MIT is a Focus School.



# Mobil Foundation, Inc.

## grant recommendation

**ORGANIZATION:** The University of Michigan  
**ADDRESS:** Ann Arbor, Michigan  
**ZIP CODE:** 48109  
**ORGANIZATIONAL CONTACT:** H. Scott Fogler  
**PROGRAM/DEPARTMENT:** Department of Chemical Engineering

**DATE:** 7/12/93  
**BUDGET YEAR:** 1994  
**AMOUNT:** \$15,000

**RECOMMENDING MOBIL UNIT (CO.,DIV.&DEPT.):** -MEPTEC  
**MOBIL EMPLOYEE COORDINATING GRANT:** J. K. Jasti

**501 (C) (3) ATTACHED** ☐  
**(IF NEW ORGANIZATION)**

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1993 - \$10,000		
		UNIT CODE:
		CAT. CODE:

### JUSTIFICATION:

#### Recommended Grant

We recommend a grant of \$15,000 to the Department of Chemical Engineering at the University of Michigan. The increase over 1993 reflects our strategy of focusing support through larger grants to a smaller number of key institutions. This will result in a greater impact on the target recipients and enhance Mobil's image and prestige in the research and academic communities.

#### Purpose of Grant

This grant will support basic research in the areas of near well bore science and engineering. Specific research areas include profile control, fines migration, formation damage, scale inhibition, acid stimulation, and bacterial transport in porous media.

#### Effectiveness

H. Scott Fogler's research group is one of the few Chemical Engineering groups maintaining research activity in problems pertaining to well production technology over the past 15 years. His work is currently supported by 10 oil companies. They emphasize fundamental long term research since all of the members of the research group are Ph.D. students.

#### Benefits to Mobil

Mobil research has benefitted both from hiring Fogler's students and utilizing his research work. This grant will help maintain the strong ties which have been developed over the past few years.



# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: University of Minnesota

ADDRESS: Minneapolis, Minnesota

ZIP CODE: 55455

ORGANIZATIONAL CONTACT: Professors L.E. Scriven/Ted Davis

PROGRAM/DEPARTMENT: Dept. of Materials Engineering and Materials Science

DATE: 6/3/93

BUDGET YEAR: 1994

AMOUNT: \$15,000.00

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): MRDC - MEPTEC

501 (C) (3) ATTACHED ☐

MOBIL EMPLOYEE COORDINATING GRANT: R. F. Heinemann

(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL		GRANTS BY OTHER CORPORATIONS		DO NOT WRITE IN THIS BLOCK For Foundation Use Only :
1985 - \$5000	1992 - \$15000	Chevron	Exxon	
1986 - \$5000	1993 - \$15000	Shell	ARCO	UNIT CODE:
1989 - \$10000		3M	NSF	
1990 - \$10000		Amoco	BP	
1991 - \$10000				CAT. CODE:

### JUSTIFICATION:

#### RECOMMENDED GRANT:

We recommend a \$15000 grant to the Department of Chemical Engineering and Materials Science at the University of Minnesota for support of their research and educational programs.

#### PURPOSE:

This grant will support the in-progress fundamental research efforts in phenomena related to porous media flow and enhanced petroleum recovery. An understanding of these basic principles is vital to oil recovery strategies in the industry.

#### EFFECTIVENESS:

Professors Scriven and Davis continue to be recognized as leaders in the fundamental research areas of surface chemistry, polymer technology, porous media flow, dispersion, relative permeability, and enhanced oil recovery. Although these represent difficult areas, the Minnesota program continues to make new and significant contributions which quickly find acceptance and application in the oil industry. They also appear to be willing to redirect their efforts to meet changing priorities in the industry.

#### BENEFITS:

Support of this program not only has an obvious complementary role to the research efforts at MRDC's laboratories, but also serves to train graduate students of the highest quality who become sought-after recruits in the oil industry. Maintaining the flow of ideas and our contacts to those who generate them in this department through Mobil Foundation support is an important component of competitiveness for Mobil.

**Mobil Foundation, Inc.****grant recommendation**

ORGANIZATION:

University of Minnesota  
421 Washington Ave., S.E.  
Minneapolis, MN 55455

DATE:

May 1993

ADDRESS:

BUDGET YEAR:

1994

ZIP CODE:

AMOUNT:

\$11,000

ORGANIZATIONAL CONTACT:

H. Ted Davis

PROGRAM/DEPARTMENT:

Department of Chemical Engineering

RECOMMENDING MOBIL UNIT (CO., DIV. &amp; DEPT.):

PRL - Process Division

501 (C) (3) ATTACHED ☐

MOBIL EMPLOYEE COORDINATING GRANT:

F. J. Krambeck

(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1993 - \$11,000	Exxon	
1990/1992 - \$15,000	Sohio	
1989 - \$10,000	Chevron	
1987/1988 - \$ 7,000	Amoco	
1984/1985 - \$ 5,000	3M	
	Marathon	
		UNIT CODE:
		CAT. CODE:

**JUSTIFICATION:**Recommended Grant

We recommend a 1994 grant of \$11,000 to the Department of Chemical Engineering at the University of Minnesota.

Purpose of Grant

This grant will demonstrate Mobil's support for the excellent research programs in the Chemical Engineering Department.

Effectiveness

The Chemical Engineering Department has a top rated graduate program as well as a rigorous undergraduate educational curriculum. The Department is internationally recognized as a leader in chemical reaction engineering, oil reservoir modeling, and fluid interfacial phenomenon. Hence, the National Science Foundation has recently designated one of its prestigious Centers for Interfacial Engineering here. The school also contributes strongly to the fields of catalysis, kinetics, thermodynamics, and fluid dynamics.

Reason for Increase or Decrease

n/a

Benefits to Mobil

The fundamental research at Minnesota is of particular interest to Mobil's research activities, e.g. reservoir modeling, catalysis, reaction engineering, etc. Furthermore, the strong educational program gives the students a broad background in the chemical engineering fundamentals. These students will be excellent future researchers and will contribute to chemical engineering science.

# Mobil Foundation, Inc.

# grant recommendation

ORGANIZATION: Northwestern University  
Evanston, IL  
60208

DATE: 5/25/93

BUDGET YEAR: 1994

AMOUNT: 25,000

ORGANIZATIONAL CONTACT: Wolfgang Sachtler

PROGRAM/DEPARTMENT: Center for Catalysis & Surface Science

RECOMMENDING MOBIL UNIT (CO, DIV&DEPT): MRDC/CRL/Research

501(C) (3) ATTACHED ☐

MOBIL EMPLOYEE COORDINATING GRANT: W.O. Haag/D.L. Stern

(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1987 - \$20,000	Many companies are	
1988 - \$22,000	Affiliate members, e.g.	
1989 - \$25,000	Amoco, Texaco, Shell, DOW,	
1990 - \$20,000	UOP, Engelhard, WR Grace	
1991 - \$20,000		
1992 - \$20,000		UNIT CODE: _____
		CAT. CODE: _____

## JUSTIFICATION:

### Recommended Grant

We recommend a grant of \$25,000 to the Center for Catalysis and Surface Science at Northwestern University, in support of the research activities of Prof's Sachtler, Kung and Marks.

### Purpose of Grant

The grant will support the research and educational efforts of one of only few Catalysis Centers in the US. Mobil is a participant in the Industrial Affiliates program and the Industrial Advisory Committee that influences the research direction of the Center.

### Effectiveness

The Center has become one of the leading institutes of Catalysis Research with an excellent staff from Chemistry, Chemical Engineering and Material Science who frequently demonstrate interdisciplinary cooperation.

### Reason for Increase or Decrease

In previous years, individual faculty members of the Center have obtained additional, separate grants. We have made no similar recommendations this year.

### Benefit to Mobil

The Center for Catalysis and Surface Science is one of the dwindling number of academic institutions where catalysis is thriving. As a supporter, Mobil regularly receives reports of early research results, has access to the Center's advanced equipment and its faculty and to a rare source of graduate students as potential employees well trained in catalysis and surface science. Maximum recognition of the Mobil Foundation is provided by the Center by bringing faculty, students and the supporting Affiliates together on a yearly, regular basis.

## Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: Northwestern University  
2145 Sheridan Road  
Evanston IL 60208-3120

DATE: 5/93

BUDGET YEAR: 1994

AMOUNT: \$10,000

ORGANIZATIONAL CONTACT: Prof. Julio M. Ottino  
PROGRAM/DEPARTMENT: Dept. of Chemical Engineering

RECOMMENDING MOBIL UNIT (CO, DIV&DEPT): MRDC/CRL/Research 501(C) (3) ATTACHED ☐  
MOBIL EMPLOYEE COORDINATING GRANT: V. W. Weekman, Jr. (IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1992-93 - \$10,000	Amoco	
	Dow	
	Dupont	
	Proctor & Gamble	UNIT CODE: _____
	Shell	CAT. CODE: _____

### JUSTIFICATION:

#### Recommended Grant

We recommend a grant of \$10,000 to the Department of Chemical Engineering at Northwestern University.

#### Purpose of Grant

The Department is seeking support to increase the quality of their teaching program through more hands on experimental laboratory facilities.

#### Effectiveness

The improved experimental facilities will give students more exposure to the difficulties and rewards of obtaining accurate and reliable experimental data.

#### Reason for Increase or Decrease

#### Benefit to Mobil

Chemical Engineering and chemical engineering research is of vital interest to Mobil. The techniques and methods learned at the experimental facility will be directly applicable to Mobil's experimental procedures. This grant will entitle us to information on a timely basis.

# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: Notre Dame University  
Notre Dame IN  
46556

DATE: 5/93

BUDGET YEAR: 1994

AMOUNT: \$10,000

ORGANIZATIONAL CONTACT: **Prof. James J. Carberry**

PROGRAM/DEPARTMENT: **Chemical Engineering**

RECOMMENDING MOBIL UNIT (CO, DIV&DEPT): MRDC/CRL/Research 501(C) (3) ATTACHED ☐  
MOBIL EMPLOYEE COORDINATING GRANT: V. W. Weekman, Jr. (IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1987-88 \$ 5,000	Amoco \$10,000	
1989 \$ 7,500		
1990-93 \$10,000		
		UNIT CODE: _____
		CAT. CODE: _____

### JUSTIFICATION:

#### Recommended Grant

We recommend a \$10,000 grant to the Chemical Engineering Department at Notre Dame University.

#### Purpose of Grant

The purpose of this grant is to support the research of Prof. Carberry in the field of catalysis and reactor engineering and design.

#### Effectiveness

Prof. Carberry's research is of high quality and provides an important understanding in the subject field. He has an excellent record in the area of the design, creation and testing of heterogeneous catalysts and engineering of reactor design.

#### Reason for Increase or Decrease

#### Benefit to Mobil

This grant will fund research in the two main areas of Mobil's business, catalysis and process engineering. It will allow access to information and knowledge that otherwise could be years in forthcoming. It will give us an advantage over our competitors.

NCO-4309A

# Mobil Foundation, Inc.

# grant recommendation

**ORGANIZATION:** The University of Oklahoma  
**ADDRESS:** Norman, OK  
**ZIP CODE:** 73019-0628  
**ORGANIZATIONAL CONTACT:** Dr. Anuj Gupta  
**PROGRAM/DEPARTMENT:** School of Petroleum and Geological Engineering

**DATE:** 7/12/93  
**BUDGET YEAR:** 1994  
**AMOUNT:** \$11,000

**RECOMMENDING MOBIL UNIT (CO.,DIV.&DEPT.):** -MRDC/MEPTEC-Producing  
**MOBIL EMPLOYEE COORDINATING GRANT:** R. N. Vaidya

**501 (C) (3) ATTACHED** ☐  
**(IF NEW ORGANIZATION)**

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
None		
		UNIT CODE:
		CAT. CODE:

## JUSTIFICATION:

### Recommended Grant

We recommend a grant of \$11,000 to the University of Oklahoma under the supervision of Prof. Anuj Gupta.

### Purpose of Grant

A Mobil Foundation grant would support research which has been initiated using seed support obtained from the University and the Mining & Minerals Research Institute. Prof. Gupta is a junior faculty at The University of Oklahoma and is trying to setup an ambitious research program in the department. His current research focusses on the effect of wettability on petrophysical properties of rocks, viz., electrical resistivity, fluid saturations and relative permeability.

### Effectiveness

Prof. Gupta represents a young, highly motivated junior faculty with a commitment to quality research. Before joining the University he worked in the industry (Core Labs) and understands the need to apply fundamental research to real industrial problems. In the past he has worked on modeling wettability from first principles and relating wettability to capillary pressures (centrifuge technique). Prof. Gupta's proposed research is a natural extension of his previous work but with direct applications to laboratory measurements.

### Benefits to Mobil

Supporting a junior faculty to establish his career should add to Mobil's image. More important than that, the research program initiated by Prof. Gupta would be very valuable in interpreting and modeling resistivity logs - thus enabling better hydrocarbon reserves estimation.

# Mobil Foundation, Inc.

# grant recommendation

ORGANIZATION: University of Pennsylvania  
ADDRESS: Philadelphia, Pennsylvania  
ZIP CODE: 19104  
ORGANIZATIONAL CONTACT: Professor John A. Quinn  
PROGRAM/DEPARTMENT: Department of Chemical Engineering

DATE: May 1993  
BUDGET YEAR: 1994  
AMOUNT: \$25,000\*

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.):  
MOBIL EMPLOYEE COORDINATING GRANT:

PRL - Process Division  
F. G. Dwyer

501 (C) (3) ATTACHED ☐  
(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1992/1993 - \$25,000*	Exxon	
1990/1991 - \$20,000*	ARCO	
1982/1989 - \$10,000	Shell	
1981 - \$ 5,000	duPont	
1974/1980 - \$ 4,000	Air Products	
1971/1973 - \$ 5,000 Chem.Dept.	Amoco	
		UNIT CODE:
		CAT. CODE:

## JUSTIFICATION:

### Recommended Grant

We recommend a 1994 grant of \$25,000\* to the Department of Chemical Engineering at the University of Pennsylvania.

### Purpose of Grant

The purpose of this grant is general support for Penn's excellent education programs in chemical engineering for both graduate and undergraduate students.

### Effectiveness

The Chemical Engineering Department staff has many nationally recognized experts. Their high caliber of students including graduate students point to the excellence of the Department. Their research involves energy-related projects and reactor analysis focusing in particular on the dynamics of gas/solid reactions. Other research areas include catalysis, adsorption, thermodynamics, systems engineering, and fluid interfacial properties all of which are of interest to Mobil.

### Reason for Increase or Decrease

n/a

### Benefits to Mobil

Continuing our grant to Penn helps enhance our close working relationship with the Department which includes course consultation and appraisal.

\*Includes \$10,000 CRL recommended grant.



# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: University of Pennsylvania

DATE: July 1993

ADDRESS: Philadelphia, PA

BUDGET YEAR: 1994

ZIP CODE: 19104-6391

AMOUNT: \$20,000  
(\$100,000 pledge; 4 yrs.; '92-'95  
\$50,000/20,000/20,000/10,000)

ORGANIZATIONAL CONTACT: Gregory C. Farrington

PROGRAM/DEPARTMENT: School of Engineering & Applied Science

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): MRDC

501(C) (3) ATTACHED L

MOBIL EMPLOYEE COORDINATING GRANT: J. J. Wise

(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1992 - 50,000 1993 - 20,000		    UNIT CODE: _____ CAT. CODE: _____

### JUSTIFICATION:

#### Recommended Grant

We recommend a \$100,000 grant, payable over four years, to the University of Pennsylvania for the development of the University of Pennsylvania's Institute for Advanced Science and Technology (IAST).

#### Purpose of Grant

The purpose of this grant is to assist the University of Pennsylvania in establishing an Institute for Advance Science and Technology. IAST is designed to take advantage of the university's interdisciplinary strengths, which will contribute significantly to an increase in the speed of new discovery and transfer of new knowledge into commercial use.

The institute is comprised of the following components:

- The construction of a new "wet" laboratory building, which will focus it's research on New Materials and Catalysts, the Molecular Understanding of Life Processes, and Human Injury and Aging.'
- The renovation of existing space and construction of additional space for a "dry" laboratory, which will provide office space and laboratories for computing activities and other dry lab experiments. It will also house the Center for Technology Transfer.
- The renovation of Hayden Hall to provide space for the Center for Scientific and Technological Information Resources, which will play a central role in the support of scientific and engineering research. The Center will be a regional resource for use by corporations and federal, state, and local government agencies.

One of the main goals of the IAST will be to foster interdisciplinary work, as it will involve and bring together investigators from a number of departments at the University. One of the research programs that will be housed in the IAST is that of Ray Gorte in zeolite acidity. Some of Gorte's recent work on the characterization of solid acids has been carried out in collaboration with Dr. Werner Haag at the Central Research Laboratory.

The Institute will enhance the University's capacity to provide the best training to young scientists and engineers across a variety of fields to meet industrial needs.

#### Benefits to Mobil

Support of this grant would demonstrate Mobil's commitment to student education and support for technological advancement.

# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: PRIME, INC.  
(Phila. Region Introduction for Minorities in Engineering)  
ADDRESS: The Wellington  
135 S. 19th Street, Suite 250  
Philadelphia, PA 19103-4907  
ORGAN. CONTACT: Dr. Alexander Tobin, Executive Director  
PROGRAM/DEPT.: General Support/PUP Program

Date: May, 1993  
Budget: 1994  
Amount: \$4,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT): Paulsboro Research Laboratory

501(C)(3)ATTACHED ☐

MOBIL EMPLOYEE COORDINATING GRANT: G. J. Eisele

(IF NEW ORGANIZATION)

Previous Grants by Mobil		Grants by Other Corporations		DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1983-84	\$7,500	ARCO	\$30,000	
1985	8,000	Boeing	14,500	
1986	7,500	Dupont	16,000	
1987	11,000	Exxon	18,000	
1988	9,000	Merck	10,000	
1989	8,000	Merck, Sharp, & Dohme	15,500	
1990	9,000	Rohm & Haas	16,000	
1991	11,500	IBM	11,000	
1992	10,000			Unit Code: _____
1993	4,500			Cat. Code: _____

### Recommended Grant

Paulsboro Research Laboratory recommends a grant of \$4,000 for basic corporate support. It should be pointed out that the Paulsboro Refinery will be seeking to fund \$2,000 for a total Mobil contribution of \$6,000.

### Purpose of Grant

To encourage the study of math and science in students at the pre-high school and pre-college levels.

To increase the overall number of entrants into math and science based occupations, especially minorities and women, thereby improving the opportunity for Mobil to increase its representation of these groups.

### Effectiveness

In the 20 years since its inception, PRIME's efforts to inform, guide, and motivate minority students towards math and science-based professions, especially engineering, has become increasingly effective. The PRIME program is emulated throughout the country, and its summer program (PUP or PRIME University Program) was formally recognized four years ago as the outstanding academic enrichment program of its kind in the country. PRIME students have been employed by Mobil.

### Reason for Increase or Decrease

Reduction of \$500 due to budgetary constraints.

### Benefits to Mobil

An increasing number of PRIME students are enrolling at important schools in our recruiting strategy: Carnegie Mellon, Drexel, University of Delaware, University of Pennsylvania, and RPI. Our involvement with PRIME can assist in our Diversity and Upward Mobility initiatives.

George Eisele, REEA Paulsboro, is a member of the PRIME Board of Directors.

# Mobil Foundation, Inc.

# grant recommendation

ORGANIZATION: Princeton University  
Princeton NJ  
08544

DATE: 5/93

BUDGET YEAR: 1994

AMOUNT: \$10,000

ORGANIZATIONAL CONTACT: Prof. William Russel  
PROGRAM/DEPARTMENT: Dept. of Chemical Engineering

RECOMMENDING MOBIL UNIT (CO, DIV&DEPT): MRDC/CRL/Research 501(C) (3) ATTACHED ☐  
MOBIL EMPLOYEE COORDINATING GRANT: V. W. Weekman, Jr. (IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
	<u>unrestricted -</u>	
1989 - \$10,000	Air Products \$ 3,000	
1990 - \$ 7,000	Amoco \$25,000	
1992 - \$ 7,500	Arco \$ 2,000	
1993 - \$10,000	AT&T \$ 2,000	UNIT CODE: _____
	BOC Group \$ 7,000	
	Chevron \$24,500	CAT. CODE: _____
	Dow \$ 2,500	
	Dupont \$28,000	
	Exxon \$13,000	
	GE \$29,500	
	TPG Industries \$15,000	
	Proctor & Gamble \$25,000	
	Shell \$36,000	
	Union Carbide \$ 2,500	
	W. R. Grace \$15,000	

## JUSTIFICATION:

### Recommended Grant

| We recommend a grant of \$10,000 grant to the Department of Chemical Engineering of Princeton University.

### Purpose of Grant

| This grant will demonstrate our support of the department and maintain our strong professional relationship with the faculty and students.

### Effectiveness

| Princeton University's Chemical Engineering Department, besides having a broad technological expertise, specifically is a leader in polymer technology and reactor engineering. Both their proximity and expertise are a great benefit and asset to Mobil.

### Reason for Increase or Decrease

| With the addition of new faculty members, we anticipate increased interaction between Research and the University.

### Benefit to Mobil

| This grant will help maintain our ability to work closely with the Department. This grant will provide us with access to timely use of information and knowledge.

**Mobil Foundation, Inc.****grant recommendation**

ORGANIZATION:  
ADDRESS:  
ZIP CODE:  
ORGANIZATIONAL CONTACT:  
PROGRAM/DEPARTMENT:

Princeton University  
Princeton, New Jersey  
08544  
Professor Sundar Sundaresan  
Department of Chemical Engineering

DATE: May 1993  
BUDGET YEAR: 1994  
AMOUNT: \$15,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.):  
MOBIL EMPLOYEE COORDINATING GRANT:

PRL - Process Division  
F. J. Krambeck

501 (C) (3) ATTACHED ☐  
(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1992/1993 - \$15,000 1990/1991 - \$10,000 1989 - \$ 7,500	None	
		UNIT CODE:
		CAT. CODE:

**JUSTIFICATION:**Recommended Grant

For 1994, we recommend a grant of \$15,000 to the Chemical Engineering Department of Princeton University.

Purpose of Grant

This grant will support the work of Professor Sundaresan on computer simulation of gas-particle flows.

Effectiveness

Professor Sundaresan, working with Professor Jackson, has made significant progress in developing the basic equations for these flows and methods of computer solution. We have been working with him on a cooperative effort in this area and have developed a close working relationship with him and his students.

Reason for Increase or Decrease

n/a

Benefits to Mobil

These phenomena are an important feature of our FCC reactors. Improved understanding should lead to better designs. Our contribution will help provide justification of an NSF proposal in this area which will accelerate the pace of the work.

# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: Princeton University

DATE: July 1993

ADDRESS: Princeton, NJ

BUDGET YEAR: 1994

ZIP CODE: 08544-5263

AMOUNT: \$50,000  
\$100,000 pledge  
2 yrs.; '93-'94

ORGANIZATIONAL CONTACT: James Wei

PROGRAM/DEPARTMENT: Chemical Engineering Dept.

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): MRDC

501(C) (3) ATTACHED L

MOBIL EMPLOYEE COORDINATING GRANT: J. J. Wise

(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1993 - 50,000		    UNIT CODE: _____ CAT. CODE: _____

### JUSTIFICATION:

#### Recommended Grant

This is the second part of an approved two-year \$100,000 pledge made to the Princeton University to be funded by \$50,000 grants in 1993 and 1994. The first payment was made to the Princeton University in 1993.

#### Purpose of Grant

The School of Engineering and Applied Sciences and the Department of Chemical Engineering are planning to renovate and modernize the Princeton University's chemical engineering research facilities. The Department requires improved services and laboratory spaces to meet modern research needs of the graduate students and faculty.

The renovation will provide: 1) modern laboratories and basic equipment for research in ceramics, complex fluids, catalysis and surface science, nonlinear dynamics, and polymer science and materials; 2) improved services in both buildings to insure proper electrical supply, chilled water, high pressure nitrogen, compressed air, deionized water, and ventilation;

3) specialized facilities such as a laminar flow hood and temperature-controlled cells; and

4) refurbishment of outdated laboratories throughout both buildings.

Princeton University and the Mobil Corporation have strong relations with one another based on common interests in a number of areas. Mobil has been successful in hiring a number of Princeton's graduates.

#### Benefits to Mobil

In consideration of the gift, Princeton University would name one of the renovated laboratories according to the wishes of the Mobil Foundation. The grant will help reinforce the strong relations between Mobil Corporation and Princeton University's administration and faculty. This relationship can be an important factor in influencing students' perception of Mobil as a strong advocate of quality technical education.

# Mobil Foundation, Inc.

# grant recommendation

ORGANIZATION: Princeton University  
Princeton NJ  
08544

DATE: 5/93

BUDGET YEAR: 1994

AMOUNT: \$5,000

ORGANIZATIONAL CONTACT: Prof. John T. Groves  
PROGRAM/DEPARTMENT: Dept. of Chemistry

RECOMMENDING MOBIL UNIT (CO, DIV&DEPT): MRDC/CRL/Research 501(C) (3) ATTACHED ☐  
MOBIL EMPLOYEE COORDINATING GRANT: V. W. Weekman, Jr. (IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1980-86 \$ 5,000	Air Products	
1988-93 \$10,000	Amer. Cyanamid	
	Ayerst	
	Dow	
	Dupont	UNIT CODE: _____
	Exxon	
	Hoechst	CAT. CODE: _____
	Monsanto	
	Rohm & Haas	
	Shell	

## JUSTIFICATION:

### Recommended Grant

| We recommend to continue a \$5,000 grant to the Department of Chemistry at Princeton University.

### Purpose of Grant

| This grant will help support the research and educational activities of the Department in the areas of chemical and hydrocarbon processing.

### Effectiveness

| Princeton University is located only 12 miles from the Mobil Technical Center, and a number of our professional staff have established close relationships with the Princeton faculty and staff. The University's very extensive library facilities are available for our use. Our personnel attend seminars and lectures at the University, and they attend ours. All of these interactions have gained Mobil a preferred position among industrial organizations at the University.

### Reason for Increase or Decrease

| Due to budget constraint.

### Benefit to Mobil

| This grant will help maintain our ability to work closely with faculty members and follow their research activities. It will give us availability to technical information and knowledge beneficial to Mobil research efforts.

NCO-4309A

# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: Rensselaer Polytechnic Institute  
ADDRESS: Troy, New York  
ZIP CODE: 12181  
ORGANIZATIONAL CONTACT: Dr. William N. Gill  
PROGRAM/DEPARTMENT: Dept. of Chemical Engineering

DATE: May 1993  
BUDGET YEAR: 1994  
AMOUNT: \$10,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): MRDC Research, Prod. R&TS Div.  
MOBIL EMPLOYEE COORDINATING GRANT: B. J. Hillyer

501 (C) (3) ATTACHED ☐  
(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL		GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1993	\$10,000		
			UNIT CODE:
			CAT. CODE:

### JUSTIFICATION:

#### Recommended Grant

We recommend a \$10,000 grant to the Department Chemical Engineering of Rensselaer Polytechnic Institute.

#### Purpose of Grant

The purpose of the grant is to aid RPI's current faculty and student projects. The department conducts research in several areas of interest to Mobil, such as combustion kinetics, catalysis, and reactor modeling. This grant will demonstrate our support of these programs.

#### Effectiveness

The Chemical Engineering Department at RPI has a long tradition of quality research in areas of industrial interest. The diverse backgrounds of the faculty provide students with an opportunity to participate in research in a variety of new technologies. RPI's faculty is widely recognized as a leader in engineering education.

#### Reason for Increase or Decrease

No change

#### Benefits to Mobil

This grant will provide another means for exchange of information between RPI faculty and MRDC staff to help aid current research activities. Mobil's presence on campus will be supported, as will our relations with RPI's Chemical Engineering Department, potentially leading to improved recruiting activities.

N140-6  
5/27/93



# Mobil Foundation, Inc.

# grant recommendation

**ORGANIZATION:** Rice University  
**ADDRESS:** P.O. Box 1892, Houston, Texas  
**ZIP CODE:** 77251  
**ORGANIZATIONAL CONTACT:** Professor George Hirasaki  
**PROGRAM/DEPARTMENT:** Chemical Engineering

**DATE:** 06/08/93  
**BUDGET YEAR:** 1994  
**AMOUNT:** \$15,000.00

**RECOMMENDING MOBIL UNIT (CO.,DIV.&DEPT.):** MRDC-MEPTEC-Prod.  
**MOBIL EMPLOYEE COORDINATING GRANT:** R.N. Vaidya

**501 (C) (3) ATTACHED** ☐  
**(IF NEW ORGANIZATION)**

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1992 - \$10,000	Not available	
		UNIT CODE:
		CAT. CODE:

## JUSTIFICATION:

### Recommended Grant

We recommend a grant of \$15,000 to Prof. George Hirasaki at Rice University to conduct research on wettability.

The increase reflects our strategy of focusing support through larger grants to a smaller number of key institutions. This will result in greater impact on the target recipients and enhance Mobil's image and prestige in the research and academic communities.

### Purpose of Grant

George Hirasaki joined Rice University faculty in July 1993. His work at Rice University will be an extension of his research on predicting wettability (contact angles) from scientific first principles. His approach represents a school of thought parallel to that of Dr. Jim Melrose (retired from Mobil R&D), ie., using disjoining pressure to predict wettability transitions. Hirasaki plans to extend his work to predict wettability of various minerals.

### Effectiveness

Hirasaki worked for Shell Oil (Houston) until retirement in 1993 and has made pioneering contributions in the area of oil recovery technology. He is a distinguished scientist and was awarded the 1989 Lester C. Uren Award by the SPE. He has published many papers and is the editor of the SPE monograph on Reservoir Simulation.

### Benefit to Mobil

It is now recognized that results of reservoir stimulations can be significantly affected by reservoir wettability. MEPTEC and CRL are currently focussing on using the theory of thin films and disjoining pressures to predict wettability and contact angles. Results from such work could be used directly in our pore-scale modeling project (Lattice-Boltzmann simulations). Supporting Hirasaki's research will essentially complement efforts at Mobil. Mobil will greatly benefit from the knowledge and experience of Dr. George Hirasaki.

# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: University of Texas at Arlington  
ADDRESS: Arlington, Texas  
ZIP CODE: 76019-0049  
ORGANIZATIONAL CONTACT: Dr. John S. Wickham  
PROGRAM/DEPARTMENT: Department of Geology

DATE: 5/26/93  
BUDGET YEAR: 1994  
AMOUNT: \$10,000.00

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): MEPTEC Technical Training  
MOBIL EMPLOYEE COORDINATING GRANT: Robert T. Clarke

501 (C) (3) ATTACHED ☐  
(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only :
NONE	NOT AVAILABLE	UNIT CODE:
		CAT. CODE:

### JUSTIFICATION:

#### Recommended Grant

Support in the amount of \$10,000 for 1994 is recommended for the geological research of Dr. John S. Wickham, Department of Geology, University of Texas at Arlington, Arlington, Texas.

#### Purpose of Grant

The purpose of this grant is to assist Dr. Wickham and his students in their continuing research on computer modeling of oil field scale geologic structures. Current research efforts include the development of 3-D modeling algorithms and their use in the prediction of deformational history.

#### Effectiveness

Dr. Wickham has had extensive experience in both academic and industrial settings. At the University of Oklahoma he was Professor and Director of the School of Geology and Geophysics. He has consulted extensively with Conoco and Arco, and was employed by Mobil Research at DRL from 1987-1992. At present he is Professor and Chair of the Department of Geology at the University of Texas at Arlington, Director of the Environmental Science and Engineering Program, and Director of the Earth Resource and Environment Center. He has supervised nearly 20 M.S. and Ph.D. students and has been responsible for over \$1.3 million of research grants and contracts. Dr. Wickham has published extensively in Structural Geology and Tectonics with over 65 published articles and reports. He has worked extensively in both computer and physical modeling of structures for over 15 years.

#### Benefits to Mobil

Dr. Wickham's research on structural modeling, and its extension to 3-dimensions, is especially timely for Mobil. MEPTEC is currently involved in developing large computer models of hydrocarbon maturation, thermal history and fluid flow in basins. Modeling the structural/deformational history of a basin is an essential component of these models. Support for Dr. Wickham's research in this area would be an important resource for MEPTEC's effort, especially because the University is nearby, and communication between MEPTEC and Dr. Wickham is relatively easy. Dr. Wickham is also a field trip leader in the MEPTEC Technical Training Compressional Tectonics Field Seminar.

# Mobil Foundation, Inc.

# grant recommendation

**ORGANIZATION:** Texas Learning Technology Group (TLTG)  
**ADDRESS:** P.O. Box 400, Austin, Texas  
**ZIP CODE:**  
**ORGANIZATIONAL CONTACT:** Ms. Paula Hards Brady, Director  
**PROGRAM/DEPARTMENT:**

**DATE:** 07/01/93  
**BUDGET YEAR:** 1994  
**AMOUNT:** \$25,000.00

**RECOMMENDING MOBIL UNIT (CO.,DIV.&DEPT.):** Mobil E&P U.S. Inc./MRDC  
**MOBIL EMPLOYEE COORDINATING GRANT:** Robert Key

**501 (C) (3) ATTACHED**  
**(IF NEW ORGANIZATION)**

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1987-1993 \$25,000	Dow Chemical (Annual) 200M The Brown Foundation 100M (Annual) 50M Horehst/Celanese SW Bell 5M (Annual) NALCO 25M ALCOA,ARCO, 30M Monsanto,Randon	UNIT CODE:  CAT. CODE:

## JUSTIFICATION:

### Recommended Grant

Support in the amount of \$25,000 for 1994 for the continuation of research and development of interactive multimedia environmental science curriculum.

### Purpose of Grant

TLTG is committed to development of a curriculum of instructional products in science, showing real world applications, addressing multiple learning styles and emphasizing and inquiry based problem-solving approach. TLTG is requesting this grant from Mobil Foundation for this multimedia program where students in grades 6-9 will investigate environmental issues, identify and weigh alternatives, and devise new solutions.

### Effectiveness

TLTG's history is a shining example of innovation and foresight. Attached hereto is a listing of Physical Science and Chemistry participants for 1993. There are now in excess of 165 school districts from 16 states who participate in the Physical Science program.

TLTG Chemistry I is the 1st interactive multimedia high school curriculum in the United States to be adopted as a textbook alternative. TLTG's 1st year of adoption of Chemistry I ('93) has already garnered 212 school districts across Texas.

TLTG has received national and international awards for the Chemistry I curriculum. The international award will be given in London this July.

TLTG instructional products are appropriate for schools internationally. Several Australian schools are using TLTG Physical Science, The United Kingdom has sent its ministry of Education to review course work and Brazil wants to have the program translated into Portuguese.

If history is indicative of this product's performance then the Environmental Science Project will be advanced curriculum for superior learning opportunities.

Benefit to Mobil:

Throughout the program, students are exposed to the real world issues of Land values, health, alternative energy plans, environmental controls, and the economics of environmental clean-up. Students will study problems from a number of perspectives including biological, physical, chemical, geological, medical, economic, sociological, ethical, racial and political arenas.

- Extend understanding of complex environmental problems and trade-offs involved in solving same;
- Develop improved creative and critical thinking skills;
- Develop a positive attitude toward environmental science and the environment;
- Experience, understand and appreciate the dynamics of ecosystems.

Program Expectations:

A grant of \$25M is requested from Mobil Foundation to help support TLTG's next development, TLTG Environmental Science. TLTG's Environmental Science is expected to be a four week stand-alone program that supports traditional courses and can be integrated into a variety of classes...earth science, life science physical science, integrated science, health and social studies. Designed for the one computer classroom the program will explore issues and concepts in both whole class or small group settings. The focus of the video is a dramatic case study of a fictitious low-income neighborhood presumably contaminated by leaking underground fuel storage tanks. The components of TLTG Environmental Science include one videodisc, software, teacher training and student print materials.

D. H. Sheffield, a former MEPSI employee now annuitant, is chairman of TLTG; Board of Directors.

# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: Tuskegee University  
ADDRESS: Tuskegee, GA  
ZIP CODE: 36088  
ORGANIZATIONAL CONTACT: Dr. Hestmat Aglan  
PROGRAM/DEPARTMENT: Mechanical Engineering

DATE: May 1993  
BUDGET YEAR: 1994  
AMOUNT: \$11,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): MRDC Research, Prod. R&TS Div.  
MOBIL EMPLOYEE COORDINATING GRANT: A. B. Wardlow

501 (C) (3) ATTACHED ☐  
(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL		GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1993	\$11,000		
			UNIT CODE:
			CAT. CODE:

### JUSTIFICATION:

#### Recommended Grant

We recommend a grant of \$11,000 to the School of Mechanical Engineering and Architecture of Tuskegee University.

#### Purpose of Grant

The purpose of the grant is to fund a Mobil Undergraduate Research Fellowship Program supporting one chemical engineering and one mechanical engineering senior undergraduate student research project. This support is necessary to encourage and motivate academically qualified female and minority students toward a career in research.

#### Effectiveness

The program is expected to aid Mobil's efforts to recruit minority engineers, both by enlarging the pool of qualified minority engineers and by building a mutually beneficial relationship with Tuskegee University Engineering Departments.

#### Reason for Increase or Decrease

No change

#### Benefits to Mobil

By the year 2000, one in three workers will be minority. Programs such as this will give Mobil access to the most qualified minority engineers and will encourage qualified minority students toward a career in research.

# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: Villanova University  
ADDRESS: Villanova, PA  
ZIP CODE: 19085  
ORGANIZATIONAL CONTACT: Dr. Michael Kelly  
PROGRAM/DEPARTMENT: Chemical Engineering

DATE: May 1993  
BUDGET YEAR: 1994  
AMOUNT: \$8,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): MRDC Research, Prod. R&TS Div.  
MOBIL EMPLOYEE COORDINATING GRANT: E. G. Barry

501 (C) (3) ATTACHED ☐  
(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL		GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1978-83	\$3,000/yr	Air Products - ChE Dept. Chair	
1984-86	\$5,000	Suntech	
1987-92	\$12,500	DuPont	
1993	\$8,000	Exxon Res. & Eng.	
		Arco Chemical Co.	
			UNIT CODE:
			CAT. CODE:

### JUSTIFICATION:

#### Recommended Grant

We recommend a grant of \$8,000 to the Chemical Engineering Department of Villanova University.

#### Purpose of Grant

Purchase of specific equipment to upgrade current facilities and support the summer undergraduate research program. This program continues to be very valuable in giving undergraduate students a feeling for actual research projects and procedures. The quality of Villanova's research will then be enhanced.

#### Effectiveness

One significant new program that will directly benefit from this gift will be the summer undergraduate research by selected students under the direction of department professors. The program is aimed at improving Villanova's hands-on-type engineering studies with well-defined research goals.

#### Reason for Increase or Decrease

No change

#### Benefits to Mobil

Use of these grant monies will increase the research orientation of the students, as well as provide hands-on experience conducting actual research projects.

N140-1  
5/27/93

# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: Villanova University  
ADDRESS: Villanova, PA  
ZIP CODE: 19085  
ORGANIZATIONAL CONTACT: Dr. Michael Kelly  
PROGRAM DEPARTMENT: Chemical Engineering

DATE: May 1993  
BUDGET YEAR: 1994  
AMOUNT: \$7,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.):

MRDC Research, Prod. R&TS Div.

501 (C) (3) ATTACHED ☐

MOBIL EMPLOYEE COORDINATING GRANT:

E. G. Barry

(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL		GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1990	\$10,000	Air Products	
1991	\$10,000	Suntech	
1992	\$10,000	DuPont	
1993	\$7,000	Exxon R&E	
		ARCO Chem. Co.	UNIT CODE:
			CAT. CODE:

### JUSTIFICATION:

#### Recommended Grant

We recommend a grant of \$7,000 to the Chemical Engineering Department of Villanova University.

#### Purpose of Grant

Support expanded Graduate Program at MSChE level. This expansion will enhance the quality of Villanova's graduate research program. Our grant will demonstrate continued support of the engineering curriculum and faculty, with whom MRDC has long-standing relationships.

#### Effectiveness

This grant will partially support an expanded Graduate Research Program aimed at enrolling more students in the MSChE program. Candidates must complete a research thesis in order to fulfill the requirements for the Masters degree.

#### Reason for Increase or Decrease

No change

#### Benefits to Mobil

Expansion of the Graduate Research Program at Villanova will increase the number of students conducting research; this, in turn, will result in more publications and contribute to the overall technology transfer from academic programs to industry technology needs.



# Mobil Foundation, Inc.

## grant recommendation

**ORGANIZATION:** Washington University  
**ADDRESS:** St. Louis, Missouri  
**ZIP CODE:** 63130  
**ORGANIZATIONAL CONTACT:** Professor M. Dudukovic  
**PROGRAM/DEPARTMENT:** Chemical Engineering

**DATE:** 7/12/93  
**BUDGET YEAR:** 1994  
**AMOUNT:** \$5,000

**RECOMMENDING MOBIL UNIT (CO.,DIV.&DEPT.):** MRDC-Research  
**MOBIL EMPLOYEE COORDINATING GRANT:** M. P. Ramage

**501 (C) (3) ATTACHED** ☐  
**(IF NEW ORGANIZATION)**

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1986 - \$10,000-PRL 1987 - \$15,000-PRL 1988 - \$15,000-PRL 1991 - \$ 5,000-DRL 1992 - \$ 5,000-DRL 1993 - \$ 5,000	See below	
		UNIT CODE:
		CAT. CODE:

### JUSTIFICATION:

#### Recommended Grant

We recommend a grant of \$5,000 for support of the Chemical Reaction Engineering Laboratory (CREL) at Washington University.

#### Purpose of Grant:

To support research in mathematical modeling and new experimental techniques in chemical reaction engineering with application to chemical reactors and enhanced oil recovery. This research will be performed at the Chemical Reaction Engineering Laboratory at Washington University, St. Louis under the direction of Prof. M. Dudukovic.

#### Effectiveness:

The Chemical Reaction Engineering Laboratory at Washington University in St. Louis provides an environment in which chemical engineering graduate students perform research on relevant reaction engineering problems and develop new technology in the scale-up, design, and analysis of chemical reactors. The emphasis is on combined modeling and experimental work. The efforts are supported by federal grants (NSF), contracts (JPL, EPRI), and annual grants from various industrial companies (Amoco, Exxon, Monsanto, Phillips Petroleum, 3M Company, Shell Development), normally in the amount of \$15,000 per company.

The current CREL research efforts are focused on two major areas: (1) multiphase reactors and (2) applications of reaction engineering principles and methodology to emerging technological areas. This program includes trickle beds, bubble columns, evaluation of tracer experiments, and on-line reactor control—all areas of considerable interest to Mobil. One new research area of particular interest is the development of a positron emission tomography technique; the University's cyclotron shop and medical school have pioneered this technique for flow visualization of blood in the brain.

#### Benefits to Mobil:

The research areas described above are directly related to R&D efforts at both PRL and DRL. New experimental techniques such as the positron emission tomography could be applied to Laboratory coreflood and slim tube displacement experiments at DRL. New modeling techniques for fluid flow with chemical reactions in porous media are applicable in reservoir simulation models for enhanced oil recovery. Professor Dudukovic has been a past consultant in reaction engineering for PRL and he plays a key role in the operation of CREL.

## grant recommendation

ORGANIZATION:

University of Wisconsin

DATE: \_\_\_\_\_

May 1993

ADDRESS:

1415 Johnson Drive

BUDGET YEAR:

1994

ZIP CODE:

Madison, WI 53706

AMOUNT:

**\$10,000**

ORGANIZATIONAL CONTACT:

James Dumesic, Dale Rudd, and Stanley Langer (Professors)

PROGRAM/DEPARTMENT:

Department of Chemical Engineering

RECOMMENDING MOBIL UNIT (CO., DIV. &amp; DEPT.):

PRL - Process Division

501 (C) (3) ATTACHED ☐

**MOBIL EMPLOYEE COORDINATING GRANT:**

T. F. Degnan

(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK
1989/1993 - \$10,000	Amoco	For Foundation Use Only:
1988 - \$ 8,000	Chevron	
		UNIT CODE:
		CAT. CODE:

**JUSTIFICATION:**

### Recommended Grant

For 1994, we recommend a grant of \$10,000 to be divided among Professors James Dumesic (\$2,500) and Stanley Langer (\$2,500) of the Department of Chemical Engineering and the Minority Engineering Program (\$5,000) at the University of Wisconsin.

### Purpose of Grant

This grant will support research in the area of fundamental heterogeneous catalysis. This work will improve understanding of the relationships between catalytic structure, composition, and catalytic properties. Specifically, the grant will support an ongoing Catalyst Design Advisory Program in the Department of Chemical Engineering. The grant to the Minority Engineering Program will support financial and educational support services to minority engineers as well as support programs to promote interest in engineering at elementary and secondary schools.

## Effectiveness

The University of Wisconsin is in the forefront of chemical engineering research and education in a number of areas. Most recently, the Department has been expanding its efforts in heterogeneous catalysis research. In recognition of his contributions in this area, Professor Dumesic has been awarded the 1988 Paul Emmett Award by the American Chemical Society.

## Reason for Increase or Decrease

n/a

## Benefits to Mobil

Catalyst preparation is an important consideration in process performance. The Catalyst Design Advisory Program (CDAP) at the University of Wisconsin is oriented toward the synthesis and characterization of model catalyst systems that are then used to study particular functions in industrial catalyst formulations. The work ultimately should lead to a more systematic means of designing improved catalysts with the catalytic properties that we are seeking. University of Wisconsin has a large pool of talented undergraduate and graduate students, including a large percentage of women and minorities.

**Mobil Foundation, Inc.****grant recommendation**

ORGANIZATION: **Department of Chemical Engineering**  
**University of Wisconsin - Madison**  
ADDRESS: **Madison, WI**  
ZIP CODE: **53706**

DATE: 5/19/93BUDGET YEAR: 1994AMOUNT: \$5,000

ORGANIZATIONAL CONTACT: **Professor James A. Dumesic, Chairman**  
PROGRAM/DEPARTMENT: **Department of Chemical Engineering**

RECOMMENDING MOBIL UNIT (CO., DIV., & DEPT.): **MRDC/CRL/Research**  
MOBIL EMPLOYEE COORDINATING GRANT: **S.A.Stevenson**

501(C) (3) ATTACHED ☐  
(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1991 - \$5000 1992 - \$5000 1993 - \$5000	W.R. Grace \$30,000 Engelhard \$15,000 Haldor Topsøe \$6,000	    UNIT CODE: _____ CAT CODE: _____

**JUSTIFICATION:**Recommended Grant

We recommend a grant of \$5,000 to Professor James A. Dumesic of the Department of Chemical Engineering of the University of Wisconsin-Madison.

Purpose of Grant

The grant will support research into the properties of metal oxide and zeolite catalysts. This work aims to characterize catalyst acidity and basicity and to relate these properties to structure, composition, and catalytic activity.

Effectiveness

Professor Dumesic directs one of the leading academic programs in heterogeneous catalysis. His work in a variety of areas, including acid catalysis, metal-support interactions, and kinetic modeling, is highly regarded. He has received the ACS Emmett Award and the AIChE's Colburn award in recognition of his research. He and his students have pioneered the use of microcalorimetry as a tool to accurately measure surface acid site distributions.

Reason for Increase or Decrease

N/A

Benefit to Mobil

Acid catalysts play a key role in a number of processes important to Mobil, including cracking, isomerization, and partial oxidation; a better understanding of acidity would enhance our ability to design improved catalysts. Professor Dumesic's fundamental investigations offer new insight into how acidity, and ultimately catalytic activity and selectivity, can be created and controlled.

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
 \*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
 PRE-BUDGET UNIT REPORT AS OF 04/28/93

TECH CNT UNIT CODE-34000  
 ART/CULTURE

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00478	American Boychoir School				
P03051	General support		1,000		
P04582	General support-addition to p3051	**			
I07940	Boheme Opera Company, Inc.				
P12737	General support		1,000	1,000	1,000 ✓
I00483	Chamber Symphony of Princeton (The)				
P04207	General support	**			
I00477	Creative Theatre Unlimited				
P03570	Support of theatre arts instructional program for		1,000		
I00479	Delaware Valley Philharmonic Orchestra, Inc.				
P02330	Support for current concert season	**			
I00480	Friends of the New Jersey State Museum				
P02377	Support of the general corporate membership fund	**			
P15468	Kaleidoscope Kids program		2,500	5,000	3,000 ✓
I00485	Greater Princeton Youth Orchestra				
P04446	General support		1,000		
I00482	Greater Trenton Symphony Association				
P02400	Underwrite concerts for general public & in-school		1,000		
I01940	Hopewell Valley Chorus				
P04465	General support		1,000	1,000	1,000 ✓
I02890	Levittown Artists Association				
P04201	Support special demonstration series	**			
I00945	Mc Carter Theatre Company				
P02489	Sponsor special performances		5,000	4,000	5,000 ✓
I01939	New Jersey June Opera Festival				
P04361	General support		1,500		
I01788	New Jersey State Opera				
P04423	General support	**			
I00486	New Jersey Symphony Orchestra				
P02553	Educational programs and special events		2,500		
I00487	Pennington Players				
P02633	General support		1,000	1,000	1,000 ✓

MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
 \*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
 PRE-BUDGET UNIT REPORT AS OF 04/28/93

TECH CNT UNIT CODE-34000  
 ART/CULTURE

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00488 P02659	Princeton Art Association Artworks Productions/Program support		1,000		1,000 ✓
I00489 P02660	Princeton Ballet Society General support		2,000	1,500	2,000 ✓
I01938 P03635	Princeton Pro Musica General support		1,500	1,500	
I01787 P04442	Trenton Civic Opera Company General support		1,000	1,000	
I02032 P04725	Trenton Museum Society Summer Concert	**			
I08326 P04738 P15480	Voices, Inc. General support School program	**		1,000	1,000 ✓
I00490 P02877	Westminster Choir College Support for current season	**			
TOTAL ART/CULTURE			24,000	17,000	15,000

ENTER BELOW ANY NEW PROPOSALS YOU WOULD LIKE TO SPONSOR:

UNIT NAME	UNIT CODE	INSTITUTION NAME	PROPOSAL NAME	AMOUNT

APPROVED g. Ross

DATE 6/25/93

NOTE: \*\* THIS PROPOSAL WAS RECOMMENDED IN A YEAR PRIOR TO 1992


MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
\*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
PRE-BUDGET UNIT REPORT AS OF 04/28/93TECH CNT UNIT CODE-34000  
CIVIC

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I15392 P15469	Mercer County Hispanic Association, Inc. General support			1,000	1,000 ✓
I14755 P14347	Pennington First Aid Squad, Inc. Training center construction		15,000		
I08203 P04583	YMCA of Princeton NJ (Princeton, NJ) Renovation of Facilities	**			
TOTAL CIVIC			15,000	1,000	1,000

ENTER BELOW ANY NEW PROPOSALS YOU WOULD LIKE TO SPONSOR:

UNIT NAME	UNIT CODE	INSTITUTION NAME	PROPOSAL NAME	AMOUNT
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

APPROVED



DATE

6/25/93

NOTE: \*\* THIS PROPOSAL WAS RECOMMENDED IN A YEAR PRIOR TO 1992

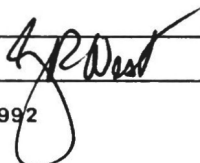
MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
\*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
PRE-BUDGET UNIT REPORT AS OF 04/28/93TECH CNT UNIT CODE-34000  
COMMUNITY FUND

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00493 P02829	United Way of Tri-State Princeton, NJ United Way		60,000	60,000	60,000 ✓
TOTAL COMMUNITY FUND			60,000	60,000	60,000

ENTER BELOW ANY NEW PROPOSALS YOU WOULD LIKE TO SPONSOR:

UNIT NAME	UNIT CODE	INSTITUTION NAME	PROPOSAL NAME	AMOUNT
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

APPROVED



DATE

6/25/93

NOTE: \*\* THIS PROPOSAL WAS RECOMMENDED IN A YEAR PRIOR TO 1992



MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
 \*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
 PRE-BUDGET UNIT REPORT AS OF 04/28/93

TECH CNT UNIT CODE-34000  
 EDUCATION

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I00194 P00265	Drexel University Engineering Dept-minority co-op program		10,000	10,000	10,000 ✓
I04145 P12773	Friends of New Jersey Network, Inc. General support		3,000		
I15393 P15470	Independent College Fund of New Jersey Mercer Science & Engineering Fair			2,000	2,000 ✓
I06097 P12756	Mercer County Community College Project S.M.I.L.E.		4,000	8,000	5,000 ✓
I01983 P01571	Mercer County Vocational Technical School Scholarship Program		2,000		
I15394 P15471	New Jersey Society of Professional Engineers Mathcounts program			2,500	2,500 ✓
I00403 P01815	Rider College Capital Campaign	**			
I01995 P09157	Stony Brook-Millstone Watershed Association Arboretum-educational support	**			
TOTAL EDUCATION			19,000	22,500	24,500

ENTER BELOW ANY NEW PROPOSALS YOU WOULD LIKE TO SPONSOR:

UNIT NAME	UNIT CODE	INSTITUTION NAME	PROPOSAL NAME	AMOUNT
Tech Cnt	34000	Trenton Roebling Comm. Dev. Corp.	The Invention Factory	\$ 5,000 ✓

(A total of \$25,000 from 1994 to 1998)

APPROVED 

DATE 6/25/93

NOTE: \*\* THIS PROPOSAL WAS RECOMMENDED IN A YEAR PRIOR TO 1992

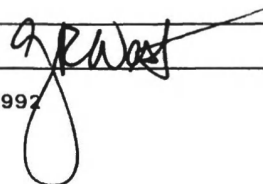
MOBIL FOUNDATION/CONTRIBUTIONS SYSTEM  
\*\*\*\*\* CONFIDENTIAL \*\*\*\*\*  
PRE-BUDGET UNIT REPORT AS OF 04/28/93TECH CNT UNIT CODE-34000  
HOSPITAL

INST/PROP NUMBER	INSTITUTION/PROPOSAL NAME	PRE 1992	ACTUAL 1992	APPROVED 1993	PROPOSED 1994
I06106	Medical Center at Princeton Foundation, Inc.				
P17086	Capital campaign-construction/renovation			50,000	50,000 ✓
TOTAL HOSPITAL				50,000	50,000
TOTAL 34000			118,000	150,500	150,500

ENTER BELOW ANY NEW PROPOSALS YOU WOULD LIKE TO SPONSOR:

UNIT NAME	UNIT CODE	INSTITUTION NAME	PROPOSAL NAME	AMOUNT
_____	_____	_____	_____	_____
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_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

APPROVED



DATE

6/25/93

NOTE: \*\* THIS PROPOSAL WAS RECOMMENDED IN A YEAR PRIOR TO 1992

MOBIL FOUNDATION, INC.GRANT RECOMMENDATION

ORGANIZATION: Boheme Opera Company  
ADDRESS: 1907 Chestnut Street, Trenton, NJ  
ZIP CODE: 08611  
ORGANIZATIONAL CONTACT: Joseph R. Pucciatti  
PROGRAM/DEPARTMENT:

DATE: June, 1993  
BUDGET YEAR: 1994  
AMOUNT: \$1,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): MTC Engineering  
MOBIL EMPLOYEE COORDINATING GRANT: T.W. Mattocks, S.G. Greco

501(c)(3) ATTACHED  
(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL  
1993 - 1,000

GRANTS BY OTHER CORPORATIONS  
Dodge Foundation  
Merril-Lynch

DO NOT WRITE IN BLOCK  
For Foundation only:

UNIT CODE:

CAT. CODE:

JUSTIFICATION:

Mobil's support of regional fine arts and educational organizations not only accrues to Mobil the benefits of being a good neighbor, but also makes a very positive impact on the quality of life available to employees and their families. One such organization that enriches the central New Jersey region is the Boheme Opera Company, which gives biannual, fully staged opera productions. Over the last few years, a number of Mobil employees have either attended or performed in these operas.

It is important that this opera company be healthy, not only for its contribution to the rejuvenation of the Trenton area, but also for the educational opportunities it offers young people in its apprentice program. In addition, the existence of an opera company in the area is an asset to the Mobil Technical Center in maintaining and attracting employees.

Due in part to the support of Mobil Foundation and employees, the opera company has had great success in 1993. This association has also provided very favorable publicity for Mobil.

In addition to stagings of FAUST and IL BARBIERE DI SIVIGLI, plans for the 1993-1994 season include the creation of an annual Opera Apprenticeship Program, an opera gala, recitals showcasing local and budding artists-singers, and expansion of the company's various educational outreach programs. To help support these efforts, funding from Mobil Foundation is again being sought for the next year.

MOBIL FOUNDATION, INC.GRANT RECOMMENDATION

ORGANIZATION: Friends of New Jersey State Museum  
ADDRESS: 205 W. State Street, Trenton, NJ  
ZIP CODE: 08625  
ORGANIZATIONAL CONTACT: Leah P. Slosberg  
PROGRAM/DEPARTMENT: Director

DATE: 6/22/93  
BUDGET YEAR: 1994  
AMOUNT: \$3,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): MTC E. R. Mgr.  
MOBIL EMPLOYEE COORDINATING GRANT: G. R. West, E. R. Mgr.

501(c)(3) ATTACHED \_\_\_\_\_  
(IF NEW ORGANIZATION) -

PREVIOUS GRANTS BY MOBIL  
1986 - \$ 1,000  
1987 - 1,000  
1988 - 1,000  
1989 - 1,000  
1990 - 1,000  
1993 - 5,000

GRANTS BY OTHER CORPORATIONS  
AT&T \$5,000  
Prudential 2,500  
Johnson & Johnson 6,000  
New Jersey Bell 5,000  
Merrill Lynch 6,000

DO NOT WRITE IN BLOCK  
For Foundation only:

UNIT CODE:

CAT. CODE:

JUSTIFICATION:

Recommended Grant - We recommend a \$3,000 1994 grant to the Friends of the New Jersey State Museum a Non-Profit organization.

Purpose of Grant - The New Jersey State Museum provides museum services to approximately one-half million people annually. The proposed grant will be used to help fund the Kaleidoscope Kids program which links Museum collections and exhibitions to hands-on learning. The program utilizes four-part format--family weekend workshops, after school programs, family days and summer camp.

Reason for Increase or Decrease - The Kaleidoscope Kids program is important and we want to continue providing assistance; however, we recommend a decreased amount so that we may allocate some of our funds for new opportunities.

Effectiveness - Kaleidoscope Kids is a family oriented program that helps children and parents discover more about our state, its people, and its cultural and natural history. The Museum has successfully reached out to the local urban community, expanding its traditional audience.

Benefits to Mobil - Recognition for Mobil Foundation underwriting will be featured in the Museum's publications as a Friend of the New Jersey State Museum.

MOBIL FOUNDATION, INC.GRANT RECOMMENDATION

ORGANIZATION: Hopewell Valley Chorus  
ADDRESS: RD #1 Box 220 New Road, Lambertville, NJ  
ZIP CODE: 08530  
ORGANIZATIONAL CONTACT: Beverly Monahan  
PROGRAM/DEPARTMENT: President

DATE: 6/21/93  
BUDGET YEAR: 1994  
AMOUNT: \$1,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): MTC E.R. Dept. 501(c)(3) ATTACHED \_\_\_\_\_  
MOBIL EMPLOYEE COORDINATING GRANT: West, ER Manager (IF NEW ORGANIZATION)

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PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN BLOCK For Foundation only:
1987 - 1,000	None	
1988 - 1,000		
1989 - 1,000		
1990 - 1,000		
1991 - 1,000		
1992 - 1,000		UNIT CODE:
1993 - 1,000		CAT. CODE:

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**JUSTIFICATION:**

The Hopewell Valley Chorus is a local organization which has been treating audiences in our area to a wide variety of music for over 27 years. They also seek to encourage selected local students to study music by sponsoring a college scholarship through the Hopewell Valley High School

Their base of financial support comprises chiefly of membership fees, ticket receipts from Christmas and Spring concerts, and the patronage of grants.

One of REEA's employees is the past president of the Hopewell Valley Chorus and another is the chorus's accompanist. In addition to their concerts, the Hopewell Valley Chorus has performed a Christmas concert for Mobil Technical Center employees for the past few years. We believe this group is deserving of funds because of comments we have heard from employees who have enjoyed the Chorus. The Chorus is trying to raise funds in the corporate community because of increased operating expenses and the continuation of a modest scholarship program.

# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: McCarter Theatre Company  
ADDRESS: 91 University Place, Princeton, NJ  
ZIP CODE: 08540  
ORGANIZATIONAL CONTACT: Susan Reeves  
PROGRAM/DEPARTMENT: Director of Development

DATE: 6/7/93  
BUDGET YEAR: 1994  
AMOUNT: \$5,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.):

MOCORP, EHS  
P. A. Naro, EHSL

501 (C) (3) ATTACHED ☐  
(IF NEW ORGANIZATION)

MOBIL EMPLOYEE COORDINATING GRANT:

PREVIOUS GRANTS BY MOBIL	GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1993 - \$4,000	Amer. Re-Insurance Co. \$7,500	
1989-92 - \$5,000	Beneficial Management Corp. \$7,500	
1988 - \$3,000	Merrill Lynch & Co., Inc. \$6,000	
1987 - \$4,000	Martin Marietta Corp. \$6,000	
1982-86 - \$3,000	Church & Dwight Co., Inc. \$6,000	
1981 - \$2,500	Dow Jones & Co., Inc. \$5,000	
		UNIT CODE:
		CAT. CODE:

### JUSTIFICATION:

McCarter is an independent, nonprofit and tax-exempt corporation that has become one of the busiest performing arts centers in the nation and the largest professional theater in New Jersey. It presents an annual theater series which features the work of this country's leading writers, actors, directors, designers, choreographers, and composers. McCarter also seeks to promote the cultivation and creation of new work. It augments these theater-related programs with an equally diverse and acclaimed program of music, dance, and special events featuring artists of national and international repute from a wide variety of disciplines; this program rivals any performing arts series in the country. In addition, McCarter presents annual production of Dickens' classic A Christmas Carol and The Nutcracker, featuring the American Repertory Ballet, as well as a Summer Cinema Series.

Especially noteworthy is McCarter's dedication to servicing the community through broad-based outreach programming which instills in school children and adults a deep appreciation for the theater arts, cultivates and trains young talent, and supports the needs of the elderly and disabled. Its arts education programs reached over 36,000 elementary, middle, and high school students and their families throughout the region this past year. Schools which attend are provided with free study and curriculum guides and are offered a variety of activities to enrich their theater experience. In-school programs consist of a wide variety of activities, including workshops, touring assembly performances, and extended in-school residencies. A new project which will provide free tickets for each theater production to 500 students from selected Trenton schools will be continued; a total of 2,500 students will participate in the project.

This grant is critical in FY 1993-94. Last year McCarter launched a major restructuring and cost-cutting program to cope with drastic cutbacks in state aid. Many industrial contributors have increased their grants to help alleviate this crisis. The modest increase proposed here is in keeping with that objective. This grant would allow Mobil to be identified as a sponsor of four performances. The identification would encompass all advertising and other promotion (posters, handbills, mailings, etc.) and the program for the event. In addition, Mobil would continue to be listed in a prominent lobby display and in programs of other events. McCarter continues to do an excellent job in publicizing Mobil's participation, and we believe that this has served to enhance Mobil's image and reputation as a company devoted to sponsorship of local artistic and cultural activities. They plan to continue this, and we look forward to additional beneficial exposure.

MOBIL FOUNDATION, INC.GRANT RECOMMENDATION

ORGANIZATION: Pennington Players  
ADDRESS: P.O. Box 144, Pennington, NJ  
ZIP CODE: 08534  
ORGANIZATIONAL CONTACT: Peter LaBriola, President  
PROGRAM/DEPARTMENT:

DATE: 6/22/93  
BUDGET YEAR: 1994  
AMOUNT: \$1,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): MRDC REEA Gen'l 501(c)(3) ATTACHED  
MOBIL EMPLOYEE COORDINATING GRANT: P.M. Hevey, Mgr., Gen'l Servs. (IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL		GRANTS BY OTHER CORPORATIONS	<u>DO NOT WRITE IN BLOCK</u> For Foundation only:
1979 - 81	\$1,000	1991 County Cultural	
1983 - 86	1,000	and Heritage	
1987 - 93	1,000	Commission \$3,000	
			UNIT CODE:
			CAT. CODE:

JUSTIFICATION:

Mobil Research and Development Corporation, General Services, Princeton, NJ, proposes that the Mobil Foundation consider a budget grant of \$1,000 to the Pennington Players, a non-professional, tax-exempt, non-profit community theatre organization. This group has had a cultural influence in the area around the Mobil Technical Center for thirty years.

Over the past several years, The Pennington Players have been hampered by the lack of a permanent home, forcing them to present their shows in numerous locations (primarily churches) around the general area. While this has exposed the Players to an increased number of people, it has hindered them from developing an audience loyalty that is built when a company performs at the same location over a period of years. This problem is becoming resolved by dividing the performances between the Methodist Church in Pennington and the Artists' Showcase Theatre in Trenton for the coming year.

The Players are experiencing increased support and participation. They raise most of their money through ticket sales, a flea market and the sale of cookbooks and t-shirts. Once plans are identified for a permanent residence, they expect to attract more corporate support.

Mobil receives prominent recognition in all of their printed programs. Continued support is recommended because of the recognition Mobil receives in Pennington.



# Mobil Foundation, Inc.

## grant recommendation

ORGANIZATION: Artworks Association  
ADDRESS: 45 Stockton Street,  
ZIP CODE: Princeton, NJ 08540  
ORGANIZATIONAL CONTACT: Laurence Snider  
PROGRAM/DEPARTMENT: Executive Director

DATE: 6/7/93  
BUDGET YEAR: 1994  
AMOUNT: \$1,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.):  
MOBIL EMPLOYEE COORDINATING GRANT:

MOCORP, EHS  
P. A. Naro, EHSL

501 (C) (3) ATTACHED ☐  
(IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL		GRANTS BY OTHER CORPORATIONS		DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1992	\$1,000	Colgate-Wilkinson Fund	\$1,000	
1989 - 1991	\$2,000	Merrill Lynch	\$3,000	
1986 - 1988	\$1,000	Bunbary Foundation	\$2,000	
		Kiwanis	\$1,000	
		Rotary Club	\$ 900	
				UNIT CODE:
				CAT. CODE:

### JUSTIFICATION:

Artworks is a nonprofit, tax-exempt organization with twenty-eight years of service to the community in the visual arts. The major goal of Artworks is to provide accessible education in the visual arts. This is achieved through a wide variety of programming as well as on-going fund-raising efforts to help subsidize programs or to provide services at no cost.

Programs include: Classes for children and adults, beginners and advanced artists, in all visual arts media; lectures and gallery talks, trips to museum and galleries on the East Coast; workshops in studio media as well as seminars on aspects of careers in the arts; special programs for young people, exhibition opportunities for area artists; and exhibits in the Artworks Gallery and at other selected locations.

Artworks' main facility is located in downtown Trenton. This 8,000 square-foot facility includes three classrooms, five studios rented to individual artists, and a professional gallery. This, coupled with the original Princeton facility, enables Artworks to better serve its constituency in ten counties in New Jersey and eastern Pennsylvania.

The Trenton building has enabled Artworks to offer an increased number of classes and other educational opportunities; boost its volunteers program by 300%; host other nonprofit cultural organizations which are without facilities; and provide high-quality exhibitions on a year-round basis.

During FY 1993, Artworks presented 131 classes to over 1000 children and adults. In addition to the year-round class schedule, Artworks offered many other programs free-of-charge, as well as a four-week summer program for the children in two age groups (7-11 and 12+). Half of the participants (about 56) are tuition free.

The proposed gift would help to produce three shows for the 93-94 season. Each show costs approximately \$1,000 to produce and Artworks installs six shows a year. Expenses include transportation of work, installation, and photographing the work.

A special feature of the series is the catalogue of each exhibit. Such catalogues list the artists in the show, a brief biography, a black and white illustration of the work, and a statement by the artist, all providing viewers with a further enrichment of their experience. Gallery talks about the show are also held, giving visitors an opportunity to learn more about the work on display, its content in the art world, and often a chance to talk directly with the artists. Mobil is always listed prominently in these catalogues, as well as in all other Artworks literature, and in credit lines on press releases and in press kits.

MOBIL FOUNDATION, INC.GRANT RECOMMENDATION

ORGANIZATION: Princeton Ballet Society  
ADDRESS: 262 Alexander Street, Princeton, NJ  
ZIP CODE: 08540  
ORGANIZATIONAL CONTACT: Judith Leviton, Director  
PROGRAM/DEPARTMENT:

DATE: 6/22/93  
BUDGET YEAR: 1994  
AMOUNT: \$2,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): MRDC REEA Gen'l 501(c)(3) ATTACHED\_  
Servs., Princeton, NJ

MOBIL EMPLOYEE COORDINATING GRANT: P.M. Hevey, Mgr., Gen'l Servs. (IF NEW ORGANIZATION)

PREVIOUS GRANTS BY MOBIL		GRANTS BY OTHER CORPORATIONS	DO NOT WRITE IN BLOCK For Foundation only:
1985	\$1,500	1991 J&J \$13,000	
1986	1,500 + (2,000)	1991 AT&T 12,500	
1987 - 88	1,000	1991 Merrill Lynch 3,000	
1989 - 90	1,000	1991 Prudential 5,000	
1991	1,500	1991 FMC 4,500	
1992	2,000		UNIT CODE:
1993	1,500		CAT. CODE:

JUSTIFICATION:

Mobil Research and Development Corporation, General Services, Princeton, NJ, proposes that the Mobil Foundation consider a grant of \$2,000 to the Princeton Ballet, a non-exempt organization. The Princeton Ballet continues to grow and gain in prestige. The New Jersey State Council on the Arts awarded the Princeton Ballet status as a "Major Impact Organization", one of nine cultural organizations and the only dance company to be so honored. It was also one of seventeen groups designated a "Distinguished Arts Organization."

Forty-two percent of their income (about \$720,000) is received from contributions. A Mobil contribution would support that portion of the general program which is not covered by ticket sales. Over the past five years, Mobil has varied the amount given to the Princeton Ballet. We recommend a modest increase this year because we believe that the school should be recognized for making concerted efforts to maintain quality in their work and service despite hard times. In addition to their regular performing program, the Princeton Ballet displays an excellent interest in attracting new talent and preparing students for the realities of the dancing profession, starting as a young beginner.

Highlights:

- o The Dance Power Program, one of the few educational programs in the U.S., offers free ballet lessons for inner-city third graders and above.
- o The school offers classes for neurologically impaired school children.
- o The school offers minority scholarships for interested applicants.

Mobil acknowledgement is provided by listing Mobil R&D and Foundation as a Sponsor in their general mailings and performance programs. Arnold Gasche, a Mobil annuitant, serves as President of the Board of Trustees.

MOBIL FOUNDATION, INC.GRANT RECOMMENDATION

ORGANIZATION: Voices Inc.  
ADDRESS: P.O. Box 404, Pennington, NJ  
ZIP CODE: 08534  
ORGANIZATIONAL CONTACT: Lynne Ransom, Music Director  
PROGRAM/DEPARTMENT: (609) 737-9383

DATE: 6/22/93  
BUDGET YEAR: 1994  
AMOUNT: \$1,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): MTC  
MOBIL EMPLOYEE COORDINATING GRANT: G. R. West, E. R. Mgr.

501(c)(3) ATTACHED \_\_\_\_\_  
(IF NEW ORGANIZATION) -

PREVIOUS GRANTS BY MOBIL  
1989 - 1,000  
1993 - 1,000

GRANTS BY OTHER CORPORATIONS  
American Re-Insurance  
IBM  
New Jersey Bell  
Presser Foundation  
Advanta Corporation

DO NOT WRITE IN BLOCK  
For Foundation only:

UNIT CODE: \_\_\_\_\_

CAT. CODE: \_\_\_\_\_

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**JUSTIFICATION:**

Mobil Research and Development Corporation, Mobil Technical Center, proposes that the Mobil Foundation consider a 1994 grant of \$1,000 to Voices, Inc., which is a non-profit organization. This is the same amount that was proposed in 1993.

Founded in 1987, Voices performs children opera's in New Jersey, Pennsylvania and other neighboring states, as well as performing adult concerts.

The proposed grant will be used to support Voices' School Program. Through their School Program, Voices brings a number of performances to school-aged children in the Pennington and Trenton area. We would specify that this grant would be used locally in support of the program.

Voices has been commended for its high quality of performances, presentation of new music, innovative educational programs and outreach to the community.

Mobil would receive credit in all material as a primary sponsor of the School Program.

MOBIL FOUNDATION, INC.GRANT RECOMMENDATION

ORGANIZATION: Mercer County Hispanic Association  
ADDRESS: P.O. Box 1331, Trenton, NJ  
ZIP CODE: 08607  
ORGANIZATIONAL CONTACT: Elba Pascuzzi - Executive Director  
PROGRAM/DEPARTMENT:

DATE: 6/22/93  
BUDGET YEAR: 1994  
AMOUNT: \$1,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): MTC Emp. Rel.  
MOBIL EMPLOYEE COORDINATING GRANT: G.R. West, E.R. Mgr.

501(c)(3) ATTACHED \_\_\_\_\_  
(IF NEW ORGANIZATION) -

PREVIOUS GRANTS BY MOBIL  
1993 - \$1,000

GRANTS BY OTHER CORPORATIONS  
Janssen Pharmaceutica  
New Jersey Bell  
Public Service Electric & Gas  
Trenton Times  
United Jersey Bank

DO NOT WRITE IN BLOCK  
For Foundation only:

UNIT CODE:

CAT. CODE:

JUSTIFICATION:

The Mobil Technical Center recommends a 1994 Mobil Foundation grant be made to the Mercer County Hispanic Association (MECHA).

MECHA incorporated as a non-profit organization in March of 1985, in an effort to reach out to Mercer County's rapidly growing hispanic population. Specifically, MECHA assures that the human service delivery system is appropriately and effectively addressing the needs of the county's hispanic population. Because language is so often a major barrier in helping hispanic immigrants get the services they need, all of MECHA's services and programs are provided by bilingual/bi-cultural staff and volunteers.

Some of the services provided by MECHA include:

- . **Dropout Prevention Programs** - Working primarily with students at Trenton Central High School, MECHA is providing tutoring, job placement, individual and family counselling, crisis intervention and referrals to preventive health services.
- . **Housing Resource Center** - MECHA is helping low income families locate affordable housing, offering bilingual help for lease translation, providing referrals to community based organizations that can help with emergency funds, making legal aid referrals, and helping to locate shelter in crisis situations.
- . **Employment Services** - Through their job search programs, MECHA is helping to bring individuals into the work force by providing job evaluation, job placement, skills training, and referrals to academic programs.

MECHA is committed to mainstreaming the county's growing hispanic population. It doesn't duplicate services and programs that are already in existence; they do provide, however, the linkage between the individual in need and the provider. As MECHA's Executive Director Elba Pascuzzi said, "I can solve people's problems because I know where to go. People often don't know how to make a connection, and we're the linkage." In making this grant, the Mobil Foundation will receive recognition in MECHA's promotional materials.

## MOBIL FOUNDATION, INC.

## UNITED WAY/COMMUNITY FUND RECOMMENDATION

ORGANIZATION NAME: United Way - Princeton Area  
Communities  
 ADDRESS: 15 Roszel Rd. CN 5260  
 CITY/STATE/ZIP: Princeton, NJ 08543-5260

DATE: June 1993  
 BUDGET YEAR: 1994  
 AMOUNT: \$60,000  
 PER EMPLOYEE: \$60.00

501(C)(3) ATTACHED (IF NEW ORGANIZATION): YES/NO

CAMPAIGN CONDUCTED: YES/NO

MOBIL EMPL. COORDINATING GRANT: G. R. West

TELEPHONE NO.: (609) 737-4185  
Big Mat 432-4185

PREVIOUS GRANTS BY MOBIL

\$ AMOUNT	YEAR	PER EMPL.
40,000	1989/90	36.36
60,000	1990/91	48.98
60,000	1991/92	46.15
60,000	1992/93	50.80

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INST. NO.:

PROP. NO.:

UNIT CODE:

GRANTS BY OTHER CORPORATIONS

COMPANY	AMOUNT	PER EMPL.
FMC	14,725	75.53
A. Foster Higgins	13,700	147.23
Church & Dwight	18,000	99.21

COMPANY	AMOUNT	PER EMPL.
J&J Con Prods	87,000	105.16
Bristol Myers		
Squibb	96,132	106.69

PARTICIPATING MOBIL UNIT	PROJECTED HDCOUNT	AMT EMPLOYEES CONTRIBUTED		NO. EMPLOYEES CONTRIBUTING		TOTAL EMPLOYEE HEADCOUNT	
	DEC 93	91/92	92/93	91/92	92/93	91/92	92/93
REEA, Medical CRL, ER, Eng., EHSD, MCC, Gen Svc., TSL							
TOTALS:	1000	167,044/128,947		1133	726	1370	1181

MONTH(S) OF CAMPAIGN: OCT/NOV 1ST MO. OF DEDUCTION: January LAST: December

JUSTIFICATION FOR INCREASE OR DECREASE:

MOBIL FOUNDATION, INC.GRANT RECOMMENDATION

ORGANIZATION: Drexel University  
ADDRESS: 32nd & Chestnut Streets, Philadelphia, PA  
ZIP CODE: 19104  
ORGANIZATIONAL CONTACT: Industrial Coordinator  
PROGRAM/DEPARTMENT: Minority Co-Op Program in Engineering

DATE: 6/25/93  
BUDGET YEAR: 1994  
AMOUNT: \$10,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): MTC - REEA/ER  
MOBIL EMPLOYEE COORDINATING GRANT: J. E. Nangeroni

501(c)(3) ATTACHED \_\_\_\_\_  
(IF NEW ORGANIZATION) -

PREVIOUS GRANTS BY MOBIL  
1979 - \$ 3,000  
1980 - 4,000  
1981 - 1986 5,000  
1987 - 9,000  
1988 - 1993 10,000

GRANTS BY OTHER CORPORATIONS

DO NOT WRITE IN BLOCK  
For Foundation only:

UNIT CODE:

CAT. CODE:

JUSTIFICATION:

Recommended Grant: \$10,000 to Drexel University for support of four minority Engineering students in Drexel's Co-op Program.

Purpose of Grant: To help support four minority students per year. These will be students who successfully complete a co-op period at any of the REEA laboratories and who are continuing their education at Drexel University.

Effectiveness: Minority Engineers capable of making a positive contribution in industry are limited in number. Through programs such as the one proposed, we see an opportunity to encourage outstanding students to pursue studies in engineering where, otherwise, financial limitation, or other influences, might channel education outside the scientific field.

Benefit to Mobil: Drexel is an outstanding engineering school that has graduated in excess of 242 present Mobil employees, including 14 minorities, several of whom occupy upper management position.



MOBIL FOUNDATION, INC.GRANT RECOMMENDATION

ORGANIZATION: Independent College Fund of New Jersey

DATE: 6/22/93

ADDRESS: P.O. Box 269, Summit New Jersey

BUDGET YEAR: 1994

ZIP CODE: 07902-0269

AMOUNT: \$2,000

ORGANIZATIONAL CONTACT: Mercer Blanshard - Vice President

PROGRAM/DEPARTMENT: Mercer Science &amp; Engineering Fair 1994

RECOMMENDING MOBIL UNIT (CO., DIV. &amp; DEPT.): MTC-E.R. Mgr.

501(c)(3) ATTACHED

MOBIL EMPLOYEE COORDINATING GRANT: G.R. West, E.R. Mgr.

(IF NEW ORGANIZATION) -

PREVIOUS GRANTS BY MOBIL  
1993 - \$2,000

GRANTS BY OTHER CORPORATIONS  
AT&T  
Johnson & Johnson  
New Jersey Bell  
Bristol Myers Squibb  
American Cyanamid

DO NOT WRITE IN BLOCK  
For Foundation only:

UNIT CODE:

CAT. CODE:

JUSTIFICATION:

A \$2,000 Mobil Foundation grant to the Independent College Fund of New Jersey is recommended in support of the Mercer Science and Engineering Fair.

The Independent College Fund of New Jersey (ICFNJ) is a non-profit organization (a cooperative effort involving both business and academic leaders) that distributes funds to the 16 independent colleges and universities throughout New Jersey. The purpose of this grant is to support Rider College's efforts in promoting and hosting the 1994 Mercer Science and Engineering Fair. In cooperation with the Engineers Club of Trenton, the fair attempts to encourage middle, junior and high school students interest in science and mathematics. The winners of the various age groups will go on to the 1994 International Science and Engineering Fair to be held in Gulfport Mississippi.

The 1993 competition saw 486 projects, 14 judges were Mobil employees and Mobil sponsored six awards. In acknowledgement of this grant, Mobil will be recognized at all stages of the promotion and execution of the event and awards ceremony.



MOBIL FOUNDATION, INC.GRANT RECOMMENDATION

ORGANIZATION: Mercer County Community College Foundation  
ADDRESS: P.O. Box B, Trenton, NJ  
ZIP CODE: 08690  
ORGANIZATIONAL CONTACT: Maureen McGuire, Director of Development  
PROGRAM/DEPARTMENT: Project S.M.I.L.E.

DATE: 6/21/93  
BUDGET YEAR: 1994  
AMOUNT: \$5,000

RECOMMENDING MOBIL UNIT (CO., DIV. & DEPT.): MTC  
MOBIL EMPLOYEE COORDINATING GRANT: G. R. West, E. R. Mgr.

501(c)(3) ATTACHED \_\_\_\_\_  
(IF NEW ORGANIZATION) -

PREVIOUS GRANTS BY MOBIL  
1992 - 4,000  
1993 - 8,000

GRANTS BY OTHER CORPORATIONS  
American Cyanamid \$ 100,000  
Kerney Foundation 100,000  
General Electric-Astro 15,000  
David Sarnoff Research 10,000  
New Jersey Bell

DO NOT WRITE IN BLOCK  
For Foundation only:

UNIT CODE:

CAT. CODE:

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**JUSTIFICATION:**

A reduced grant of \$5,000 to Mercer County community college is recommended, in support of Project S.M.I.L.E. (Science and Math - Interesting and Learned Easily).

The James Kerney Campus of Mercer County Community College (MCCC) is located in the heart of Trenton, a city whose public schools are besieged with high numbers of at-risk students and drop-out rates are continuing to rise. Through Project S.M.I.L.E., a number of students are given an opportunity to enhance their basic skills, increasing the likelihood that they will continue on to high school graduation.

Project S.M.I.L.E. is a program for 7th, 8th, and 9th graders who live in Trenton and wish to participate in mathematics, science, reading and computer classes that reinforce that which is being taught in the junior high classroom. Before being assigned to classes, students are tested and placed at appropriate levels. Classroom activities include lecture, lab and practical experience with computers. Students also go on cultural field trips that help to develop their understanding of the world around them.

The primary purpose of Project S.M.I.L.E. is to provide education and motivation and to encourage students to perform well in school and go on to college. Results to date have been very promising. Since 1987, 94% of S.M.I.L.E. students have remained in school, 87% are maintaining a C grade average or better, and 43% are now listed as gifted and talented by their schools. 1991-92 results continued to be impressive, with post-program reviews showing significant improvement in participants grades.

Project S.M.I.L.E. is an effective program that we want to continue supporting. We recommend a decreased grant so that we may continue to support Project S.M.I.L.E. effectively while also allocating funds to other important areas. Mobil is a major employer in the greater Trenton area. In funding this request, the Mobil Foundation will be joining other local corporate citizens in supporting a worthwhile and effective program.

## MOBIL FOUNDATION, INC.

## GRANT RECOMMENDATION

Organization: NJ Society of Professional Engineers-MATHCounts Date: June, 1993  
Address: 150 West State Street, Trenton, NJ Budget Year: 1994  
Zip Code: 08608 Amount: \$2,500.  
Organizational Contact: Ms. Joanne Lombardi, Assistant Executive Director  
Program/Department:

Recommending Mobil Unit (Co., Div. & Dept.): MRDC ENGINEERING 501(c)(3) attached |  
Mobil Employee Coordinating Grant: (If New Organization)

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK For Foundation Use Only:
1993 - \$2,500	CPC International \$1,000	
	Sharp/Ackerman Assoc. 1,000	
	PSE&G 800	
	National Starch 500	
	Allied Signal 500	
		Unit Code: _____
		Cat. Code: _____

**JUSTIFICATION:**

Description of Activities and Programs: MATHCounts is a nationwide program which combines the efforts of education, business, government, and the technological community to promote math excellence among 7th and 8th graders. Year-long emphasis on math skills culminates in the students' involvement in math-focused competition on the school, regional, state, and national levels.

Purpose of Grant: The purpose of this grant is to provide general support that will assist the MATHCounts program to continue its goal of recognizing, supporting, and fostering math excellence in the schools at an age level where that support is critically needed.

Effectiveness of the Program Organization: On the state level (the level at which our funding will be applied), over 650 students from more than 100 New Jersey schools throughout the state participated in the MATHCounts competition. Importantly, the skills necessary to the competition (logic, problem solving, speed, and accuracy) were stressed in all of the classrooms, extending the values to all of the other classroom participants, as well.

Benefits to Mobil Foundation: A grant to MATHCounts from Mobil will benefit the Company in several ways: it will enhance our image throughout the state, demonstrating that we firmly support math, the sciences, and the positive side of educating our young people. It will help to support the grooming of our future engineers and scientists (our future employees). Finally, it will result in a high level of positive publicity for us: part of our funding will provide T-shirts to the state-level finalists (approximately 50 students) with the Mobil logo prominently displayed on the back. (See accompanying photo, showing Mobil's representative with the governor of New Jersey, his wife, and the T-shirts.)



Organization: Trenton Roebling Comm. Dev. Corp.  
Address: 699 South Broad Street, Trenton NJ  
Zip Code: 08611  
Organizational Contact: Clifford Zink  
Program/Department: The Invention Factory

Date: 6/25/93  
Budget Year: 1994  
Amount: \$5,000  
\$25,000 pledge  
5 years, '94-98

Recommending Mobil Unit (Co., Div. & Dept.): MRDC Emp. Rel. 501(c)(3) attached ☒ |X|  
Mobil Employee Coordinating Grant: G. R. West, ER Mgr. (If New Organization)

<b>Previous Grants by Mobil</b> None	<b>Grants by Other Corporations</b> NJ Economic Development Authority  NJ Urban Development Corp.	<b>DO NOT WRITE IN THIS SECTION For Foundation Use Only:</b>      <b>Unit Code:</b> <b>Cat. Code:</b>
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**JUSTIFICATION:**

Recommendation: We recommend a \$5,000 grant per year for five years, beginning in 1994 to the Trenton Roebling Community Development Corporation to assist in the development of a non-profit science center.

Purpose: The Trenton Roebling Community Development Corporation is building an interactive science center called The Invention Factory. The science center will promote interest in the sciences by offering workshops and exhibits in the areas of transportation, materials, communications, energy and bio-technology. Upon completion, the science will receive most of its funds from admissions, our grant will provide funds for the development of the center. This grant is recommended in the interest of education and community development. Not only will The Invention Factory encourage young people to explore the sciences, it will also attract more tourists to the Trenton area.

Benefit to Mobil: Mobil will be viewed positively in the community for supporting this innovative educational facility. Over time, Mobil will reap the benefits of students' increased interest in the sciences. In addition, we will receive public recognition at ceremonies related to The Invention Factory and we have the option to develop a permanent display in our name upon completion of the facility.

Date: June 10, 1987

Employer Identification Number:

22-26516724

Accounting Period Ending:

December 31

Form 990 Required: ☒ Yes ☐ No

Trenton Roebling Community Development Corporation  
438 Hamilton Avenue  
Trenton, New Jersey 08609

Person to Contact:

J. Feltman

Contact Telephone Number:

(201) 645-6274

Dear Applicant:

Based on information supplied, and assuming your operations will be as stated in your application for recognition of exemption, we have determined you are exempt from Federal income tax under section 501(c)(3) of the Internal Revenue Code.

We have further determined that you are not a private foundation within the meaning of section 509(a) of the Code, because you are an organization described in sections 509(a)(1) and 170(b)(1)(A)(vi).

If your sources of support, or your purposes, character, or method of operation change, please let us know so we can consider the effect of the change on your exempt status and foundation status. Also, you should inform us of all changes in your name or address.

As of January 1, 1984, you are liable for taxes under the Federal Insurance Contributions Act (social security taxes) on remuneration of \$100 or more you pay to each of your employees during a calendar year. You are not liable for the tax imposed under the Federal Unemployment Tax Act (FUTA).

Since you are not a private foundation, you are not subject to the excise taxes under Chapter 42 of the Code. However, you are not automatically exempt from other Federal excise taxes. If you have any questions about excise, employment, or other Federal taxes, please let us know.

Donors may deduct contributions to you as provided in section 170 of the Code. Bequests, legacies, devises, transfers, or gifts to you or for your use are deductible for Federal estate and gift tax purposes if they meet the applicable provisions of sections 2055, 2106, and 2522 of the Code.

The box checked in the heading of this letter shows whether you must file Form 990, Return of Organization Exempt from Income Tax. If Yes is checked, you are required to file Form 990 only if your gross receipts each year are normally more than \$25,000. If a return is required, it must be filed by the 15th day of the fifth month after the end of your annual accounting period. The law imposes a penalty of \$10 a day, up to a maximum of \$5,000, when a return is filed late, unless there is reasonable cause for the delay.

(over)

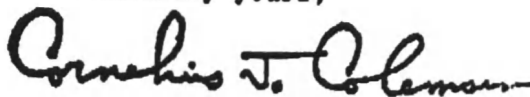
You are not required to file Federal income tax returns unless you are subject to the tax on unrelated business income under section 511 of the Code. If you are subject to this tax, you must file an income tax return on Form 990-T, Exempt Organization Business Income Tax Return. In this letter, we are not determining whether any of your present or proposed activities are unrelated trade or business as defined in section 513 of the Code.

You need an employer identification number even if you have no employees. If an employer identification number was not entered on your application, a number will be assigned to you and you will be advised of it. Please use that number on all returns you file and in all correspondence with the Internal Revenue Service.

Because this letter could help resolve any questions about your exempt status and foundation status, you should keep it in your permanent records.

If you have any questions, please contact the person whose name and telephone number are shown in the heading of this letter.

Sincerely yours,



Cornelius J. Coleman  
District Director



### GRANT RECOMMENDATION

**Date:** June 1993  
**Budget Year:** 1994  
**Amount:** \$50,000  
           \$100,000 pledge  
           2 yrs.; '93-'94

Previous Grants by Mobil	Grants by Other Corporations	DO NOT WRITE IN THIS BLOCK
1993 \$50,000	Bristol-Myers Squibb \$350,000	For Foundation Use Only:
	Merrill Lynch \$250,000	
	American Re-Insur. \$150,000	
	American Cyanamid \$100,000	
	Rhone Poulenc \$ 50,000	
		Unit Code:
		Cat. Code:

### Recommended Grant

### Purpose of the Grant

## Effectiveness

Reason for Increase or Decrease

## Benefits to Mobil

The Foundation supports principal health care institutions in several areas with large employee populations. Given the concentration of Mobil employees in the greater Princeton area and the Mobil Technical Center being home to Mobil's Corporate Medical Department, we believe that a \$100,000 pledge to the Medical Center of Princeton Foundation is appropriate.